IMPERIAL ETHIOPIAN GOVERNMENT

FIVE YEAR DEVELOPMENT PLAN

1957 - 1961

ADDIS ABABA

1) Ethiopia

DOCUMENTS
963 : 330
F 565.

IMPERIAL ETHIOPIAN GOVERNMENT

2) FIVE YEAR DEVELOPMENT PLAN

1957 - 1961

ADDIS ABABA

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FOREWORD

In the post-war period the Ethiopian economy has made significant progress. The conditions under which this development took place did not, however, require or even allow coordination by means of an overall economic plan. An economic development policy was nevertheless initiated by His Imperial Majesty and carried out by the Ethiopian Government. Separate programmes and plans were worked out in various Departments and these served as a basis for Government policy.

Among these plans the most significant are the following. During 1944-1945 the Government initiated a ten-year programme of industrial development which was elaborated by the United States Technical Project Mission in Ethiopia. This programme has only been partially carried out as existing conditions did not permit its completion. In the sphere of agriculture and animal husbandry measures were taken to increase production as well as to carry out research. The various projects were coordinated through annual programmes established by the Ethiopian Government in cooperation with experts from the Food and Agricultural Organisation and the U.S. Operations Mission to Ethiopia (Point Four). A programme for the improvement and development of forest resources was meanwhile put into operation by the Ministry of Agriculture. Progress was also evident in the sphere of transport and communications. During the years 1952-56 improvement and extension of the road network was carried out on the basis of a four-year programme formulated by the Imperial Highway Authority. A three-year programme for the rehabilitation and extension of the telecommunication network was implemented. The Ethiopian Airlines was organized and airports built throughout the country. This enabled the setting up of an international and domestic air transportation network. Steps were also taken on the basis of a number of programmes to improve the quality of the country's most important export commodities.

In addition to the efforts to improve various branches of the economy, extensive research was undertaken on the initiative of H.I.M. Emperor Haile Selassie I in order to lay firm foundations for future progress. This work was carried out by the various Government departments in cooperation with foreign experts, and covers almost every aspect of the economy. Numerous studies were, for example, made in the sphere of mineral and water resources, in agriculture and forestry, in transport and communications and in the exploration of water resources. Studies were made of the possibilities of establishing new industries, constructing power stations, and developing sea fisheries. Special schemes were devised for the development of various urban centres, of which the most important is the town plan for Addis Ababa. Furthermore a good deal of research was undertaken in the fields of education and public health.

On the basis of these studies separate plans for the long-term development of various branches of the economy were elaborated. These include three and twelve-year programmes for road improvement; a five-year programme for agriculture; projects for telecommunications; the Assab harbour development project; plans for the systematic exploration of water resources in the Lake Tana and Blue Nile Area; and a detailed ten-year plan for the expansion of education.

Thus the ground was being gradually prepared for the elaboration of a comprehensive plan for the development of the Ethiopian economy. In 1954, on the instructions of H.I.M. the Emperor Haile Selassie I, systematic preliminary work was started towards the formulation of an overall economic plan. Hence throughout 1954-1955 with the assistance of Yugoslav experts a detailed and extensive economic study was undertaken and the possibilities of future development were assessed.(1) On the basis of this survey and the results for all the above mentioned particular studies and programmes, the First Five Year Plan was formulated. Finally, in the beginning of 1956, H.I.M. the Emperor Haile Selassie I constituted a special committee which, working under His personal guidance, supervised the elaboration of the Plan.

In presenting this Plan it is necessary to refer to the numerous difficulties encountered in its elaboration. These were principally due to absence and insufficiency of statistical data and the incomplete and unsystematic nature of previous studies. These circumstances obviously had an effect on the accuracy of the various estimates and forecasts. Notwithstanding these difficulties and shortcomings, however, the Plan may be considered a realistic assessment of the main trends and possibilities of the economy for the period 1957-1961. The Plan presented can be considered both as a logical continuation of recent trends and as a means for accelerating economic development, thereby leading the Ethiopian people to a better future. However as in the case of other underdeveloped countries the conditions of economic progress cannot be easily attained and the fruits of development will ripen only gradually. Economic change will necessarily give rise to problems requiring solution. Above all to achieve a modernization of her economy Ethiopia has to overcome the hardest of obstacles facing underdeveloped countries, namely, the difficulty of securing sufficient funds for investment and the required number of technicians to put the Plan into execution.

To attain rapid economic progress it will be necessary to obtain the active support of Government authorities, central and local, of enterpreneurs, and of the population at large. Assistance will also be required from international agencies and countries with which Ethiopia has already been cooperating in accordance with the principles of the United Nations.

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1) "Situation et possibilitiés de dévelopment de l'économie éthiopienne", volumes I-XIV, Addis Ababa, 1955. This study was published in a restricted edition for the use of the Ethiopian Government.

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PART I

APPROACH TO THE FIVE-YEAR PLAN

Chapter 1

PRESENT SITUATION AND RECENT TRENDS

General Features

Since the war Ethiopia has achieved important results in the administrative, economic and social spheres of national life. The State organisation was re-established and a series of laws and regulations enacted which modernised the legal system. A series of economic measures were also introduced which were aimed at the revival and promotion of economic activity. The currency in circulation during the war was changed, and a new currency with a strong cover introduced. Trade and communications with foreign countries were extended by the restoration and improvement of roads and transport facilities. Owing to the revival of production and the improvement of communications exports rose steadily, thereby facilitating essential imports and creating a generally favourable balance of payments position. The State finances were put in order enabling the Government to meet its obligations. Out of State revenues and the receipts from foreign loans it was possible to reconstruct the road network and to set up transport services and other public utilities. A number of industrial enterprises were established and measures taken to promote agricultural production. The federation of Eritrea, hitherto artificially divided from the motherland, contributed to the creation of a larger economic area. In addition to the measures for developing the economy, a major effort was directed towards the improvement of educational and health services. The system of education was considerably enlarged with the establishment of new educational institutions at all levels, and provision made to enable large numbers of Ethiopians to study at home and abroad. The building and extension of hospitals and the training of hospital personnel made possible the extension of sanitary services, the establishment of sanitary centres in the larger urban areas and the general improvement in public health services. A number of these development projects were realised with the assistance of international agencies and some foreign countries.

Despite the progress achieved in all fields during the post-war period the economy has not reached the degree of development which its natural resources and other factors would allow. Large areas of the country with favourable climatic conditions for agricultural production are only partially exploited and in the main by extensive farming, while the numerous livestock is not economically utilised. Although there are indications of the existence of various minerals, these resources have not so far been sufficiently and systematically explored, and only relatively small quantities are being exploited. Agricultural, forest and mineral resources could all supply raw materials for a more dynamic development of manufacturing industry than has so far been achieved.

A great impediment to development is the unsatisfactory state of those branches of the economy sometimes referred to as "infrastructure" and in particular the inadequate network of communications and the poor utilization of the country's abundant resources of energy. Despite the progress which has been achieved in these branches, they still remain an obstacle to new productive investments. The result has been to neutralise the favourable possibilities for economic development afforded by abundant natural resources and underemployed labour. Excessive transport costs have prevented a more rapid development of domestic trade, and despite the significant rise in exports have weighed heavily on the marketability of some agricultural products.

The insufficient utilisation of the agricultural potential, the comparatively meagre exploitation of mineral resources, the almost untouched abundant sources of hydro-electric power and the still fragmentary system of communications have inevitably slowed down the rate of development in agriculture, manufacturing industry and other branches of the economy. The inevitable outcome of this situation was a very low per capita income and, consequently, a low rate of saving. The domestic capital formation was insufficient for the acceleration of economic development. The low per capita income was at the same time reflected in a relatively low and unfavourable structure of consumption. In Ethiopia, side by side with obsolete forms of economy, such as nomadic cattle-breeding and subsistence farming, there exists a market economy based on the exchange of agricultural products for imported industrial goods or local manufactures. This fact in itself shows that the degree of integration of the various branches of the economy has been relatively low. The greater part of the population is engaged in agricultural production, the main feature of which is its self-sufficient type of household economy, only a fraction of total production being sent to market. For this reason the economy as a whole has not fully acquired a monetary character.

The above-mentioned features reveal that the Ethiopian economy, like those of other underdeveloped countries, was moving within a closed circle of cause and effect which hampered its evolution. Low per capita income prevented the accumulation of sufficient resources for investment purposes. This in turn made it impossible to enlarge production, improve general economic conditions and accelerate overall economic development. Hence, without either a more rapid increase in production or an improvement in the productivity of labour, it is impossible to achieve a greater increase of income and an appreciable degree of saving which could be invested in expanding economic activity. The very slow agricultural development which plays a most important role in overall production had a special influence on the above-described state of the economy. In the last few years, however, the situation has shown some very important and positive changes. In some branches of the economy investments have been steadily increasing, thereby leading to a significant growth of production, particularly in industry. This revealed the beginning of a tendency toward accelerating economic development and showed that there are factors in the economy which render possible its successful growth.

Foreign capital, which usually leaves a very strong mark on the economy of underdeveloped countries, has played a somewhat different role in Ethiopia.

In most underdeveloped countries, particularly in colonial dependencies, foreign capital directs its activities mainly towards the extractive industries which play a dominant role in their economics. The national independence of Ethiopia, together with its geographical position, has brought about a different form of development. Instead of promoting extractive industries directed to export, foreign capital has been invested, on a limited scale, in manufacturing industries, based partly on domestic and partly on imported raw materials, and catering for the home market. Primarily, however, foreign capital has been involved in the purchase and export of certain agricultural products of high value on the world market. In this respect it conformed to the general pattern of foreign capital entering the economy of an underdeveloped country.

Basic Data on the Structure of the Economy

The structure of the Ethiopian economy can be better understood by an examination of the occupation and income pattern of the population. The greater part of the population is engaged in agriculture which is the most important branch of the economy. Out of a total population estimated at 19 million in 1954, the agricultural population amounts to approximately 17 million, and the non-agricultural population is only about 2 million. The employment pattern is as follows:

Estimated Composition of Active Population in 1954[1)]

	%
Agriculture and Forestry	90
Non-agricultural Activities	10
Mining, Electricity, Manufacturing Industry, Construction, Transport and Communications	2
Trade	1
Administration	1
Other Services	6

1) This estimate was based on various data not sufficiently complete and reliable and therefore should be considered as approximate.

Among the non-agricultural population it is significant that a relatively small number are engaged in productive occupations and a larger number in non-productive occupations.

Such a composition of active population is inevitably reflected in the population's earned income pattern. The greater part of the net national product is originated in agriculture. If we bear in mind that agricultural production is mostly organised on the basis of a self-sufficient household economy, and only a relatively small part as a market economy, it follows that the greatest part of agricultural income assumes a non-monetary form, and that agricultural produce is mainly consumed on the very farms where it is produced. For instance, only about 18% of the total agricultural produce goes to the market, while about 82% has a non-monetary character.

Estimate of Net National Product in 1954[1]

	Million Eth.$	%
Agriculture and Forestry[2]	1 279	75.9
Mining,Electricity and Manufacturing Industry	28	1.6
Handicrafts	58	3.4
Construction	13	0.8
Transport and Communications	62	3.7
Trade	100	5.9
Services	147	8.7
TOTAL	1 687	100.0

1) This table is based partially on statistics and partially on estimates using various available data and information. It can be used only as a rough illustration of the composition of the net national product.

2) The non-monetary sector is Eth.$ 1 041 million.

It is significant that the mining,electricity and manufacturing industries account for a relatively small share of net national product, while trade and services (administration, public services, professions, etc.)earn a far larger proportion. Per capita income in 1954 was about Eth.$ 89 (US $ 35.7) a year, a figure which indicates that the economic position of Ethiopia is comparable with that of the underdeveloped African and Asian countries, and contrasts sharply with that of the industrialised countries.

An examination of the composition of the gross national product indicates the pattern of economic development so far achieved. As in other East African countries, cattle-breeding for example is of relatively low value, for owners of livestock tend to regard their cattle as an accumulation of wealth rather than a productive source of the economy.

Estimate of Gross National Product in 1954

	Million Eth.$
Agriculture and Forestry	1 296
Crop Farming	715
Animal Husbandry	284
Home Processing and Other Earnings	295
Forestry	2
Other Industrial Activities	286
Mining	3
Electricity	4
Manufacturing Industry	26
Handicrafts	60
Construction	13
Transport and Communications	78
Trade	100
Services	152
TOTAL	1 734

For specific historical reasons the mining has only been developed to a limited extent, while manufacturing industry, based upon local materials, has been producing mainly for the home market.

The value of exports in 1954 amounted to about 10% of net national product, and the value per capita lagged behind most African and Asian countries. The structure of exports is however similar to that of most underdeveloped countries, being almost entirely based on two or three articles. Thus in 1954 the value of the three main export commodities-coffee, hides and skins and oil seeds - comprised 81% in value of total exports. Owing to this export structure the economy is heavily dependent on the price fluctuations of these articles. On the price movements and absorbing capacity of the world market for these three commodities depend the volume of the country's exports, the balance of payments position and the level of budgetary revenue. On this in turn depend the volume of imports and particularly some imported materials necessary for domestic industrial production, and the size of government investment. Such a degree of economic dependence upon the demand for two or three products represents a constant danger for the economic stability of the country.

Export Structure (Value)

Average 1950-54

	%
Coffee	55
Hides and Skins	16
Cereals and Pulses	12
Foodstuffs	11
Others	6
TOTAL	100

When compared with the country's potential, exports of agricultural products are very modest. Until recently, for example, the relatively large supply of livestock contributed only by hides and skins; live cattle and meat featured as export products only in the last few years.

Imports in 1954 amounted to about 35% of the country's total commodity funds, this level being determined by the extent of export earnings and the effective demand exerted by the home market. While exports were mainly composed of raw materials and agricultural products, about 75% of the value of imports was composed of finished goods. The largest single import commodity was textile goods which was 41% of the value of total imports. The import of goods in process was in fact limited to raw cotton, coal, oil, caustic soda and a few other products.

Import Structure (Value)

Average 1950-54

	%
Consumer Goods	64
Goods in Process	20
Capital Goods	16
TOTAL	100

The characteristic features of the home market may be deduced from the facts already given, concerning the level of agricultural and industrial production and the structure of employment. Consumer goods for the domestic market are supplied from three main sources, viz. local agricultural production, local industrial and handicraft production, and from imports. The major portion of agricultural production is at present used to satisfy the needs of the producer's own household. Only a meagre proportion goes to market to meet the needs of the relatively small urban population and for export. Industrial production is only in the initial stages of its development. The small number of industrial enterprises are not able to produce the wide variety of products required for domestic consumption. The country is therefore obliged to import a considerable quantity of industrial goods.

The consumption of the population on the whole is limited to satisfying basic needs and a very high percentage is earmarked for food. All other needs can be satisfied only on a modest scale, purchases being restricted to certain indispensable articles, such as clothes and footwear. It can therefore be concluded that the entire market is still underdeveloped, narrow and without the necessary flexibility.

Some Recent Trends

The above picture of the economy would not be complete if mention were not made of certain dynamic tendencies which have recently appeared. An analysis of trends since 1950 clearly indicates an acceleration in the pace of economic development and this in fact is the most significant feature of the last half decade. The volume of domestic savings directed to productive purposes and the inflow of foreign investment contributed to the recent growth of the economy. It is also important, however, to consider certain other factors which influence the development of the economy. Total investments in recent years averaged Eth.$ 80 million a year. Of this, net investments outside agriculture amounted to Eth.$ 50 million. In agriculture, with the exception of some small credits from the Development Bank, investments were mainly of a non-monetary character and appeared in the form of an increase in livestock, construction of houses and farm buildings out of home-made materials, and in an increase of tools and implements also generally made by the agricultural producers themselves. These investments are estimated at Eth.$ 30 million a year. If the total annual volume of investments (about Eth.$ 80 million, 1954) is compared with the national income (Eth.$ 1 687 million, 1954) the share of investments amounts to 4.7%, monetary investments to 3% and non-monetary investments in agriculture to 1.7%. When we take into account that the annual increase of population is estimated at about 1.5%, it would appear, at the first glance, that the above rate of capital formation has a predominantly "demographic" character - that is to say, the increase in the national income is sufficient only to maintain the existing per capita income at the same level. Nevertheless, in considering these facts, some specific conditions influencing the growth of Ethiopian agricultural production must be kept in view. Unlike many underdeveloped countries, Ethiopia has at her disposal large surfaces of cultivable land. The greater part of the country does not suffer from agrarian over-population so common in a number of underdeveloped countries. Large areas of cultivable land are not yet exploited. This applies not only to vast uninhabited areas in certain provinces, but also to the inhabited regions, owing to the prevalence of small rural households whose obsolete implements and defective agrotechnics make it difficult to utilize productively all cultivable land at their disposal. In these circumstances additional manpower may usefully be employed in bringing into intensive cultivation land hitherto wholly or partially unproductive.

This does not, of course, apply to those densely populated regions where cultivation is already fairly intensive. In the main, however, since land is cultivated along traditional lines and with relatively inefficient tools made by the producers themselves, large scale investment was obviously not required to achieve a significant increase in production. It must therefore be assumed that agricultural production increased at a rate equal, if not greater than the increase in agricultural population, and that it did so with minimum monetary investment. There has furthermore been a steep increase in the production of some outstanding marketable products, for example, coffee and oil seeds. It follows that the increase in population has not merely kept pace with agricultural production, but has also been supplying additional manpower enabling the exploitation of uncultivated areas. It may therefore be assumed that the total increase of agricultural production was slightly above that of the total population.

Gross Product in Agriculture

Million Eth.$

	1950	1954
Crop Farming	671	715
Animal Husbandry	262	284
Home Processing and Others	278	295
TOTAL	1 211	1 294

The other branches of the economy have shown a more rapid growth than agriculture. Between 1951 and 1954 gross output in manufacturing industry, excluding Eritrea, showed an average annual increase of 18%, and even though the volume of this increase was relatively small, its rate of growth indicates a favourable trend.

Gross Output in Manufacturing Industry

Million Eth.$

	1951	1954
12 Provinces of Ethiopia	23.9	39.1
Federal Territory of Eritrea	...	22.6
ETHIOPIA TOTAL	...	61.7

This increase of gross output in manufacturing industry was made possible by investments made in new industries of about Eth.$ 25 million in period 1951-54. The increased consumption of electric power may be taken as a significant indicator of economic development. For example, consumption in Addis Ababa and the surrounding area, which has in recent years been developing into the country's industrial and economic centre rose from 8.5 million kWh in 1945 to 23 million kWh in 1954. In the absence of detailed statistics concerning other branches of the economy, data about the export-import trade may be taken as an indicator of overall development.

Export and Import

Million Eth.$

	1950	1952	1954	1955
Total Export	66.1	112,1	172.3	154.0
Total Import	74.7	111.8	155.2	162.6
Consumer Goods	48.0	60.0	88.6	87.9
Goods in Process	15.7	23.6	28.7	30.6
Capital Goods	6.7	14.6	28.8	36.2
Unclassified	4.3	13.6	9.1	7.9

The steady increase in the proportion of capital goods in the composition of imports indicates a growing tendency towards increased investment. A similar tendency may be discerned in the growth of traffic passing through the ports handling the country's foreign trade. Traffic through the ports of Assab, Massawa and Jibuti increased from 369 000 tons in 1947 to 530 000 tons in 1954, i.e 44% in seven years.

The steady increase of government revenue and expenditure is a further favourable indication. Owing to this increase, the government was able to spend more of its funds on investments in industry, transport, education, health, etc.

Budgetary Revenue and Expenditure

Million Eth.$

	Actuals				Budget	
	1943	1946	1949	1952	1955	1956
Budgetary Revenue	28	60	62	90	115	115
Ordinary	16	44	61	80	112	114
Extraordinary	12	16	1	10	3	1
Budgetary Expenditure	27	60	69	84	128	131
Ordinary	26	54	66	73	112	120
Extraordinary	1	6	3	11	16	11

Side by side with this economic development important strides have been made in the social services.

Number of Students in Schools[1]

Thousands

	1952	1954	1956
Students in Government Schools	53.8	72.6	95.0
Students in Private and Mission Schools	5.5	8.7	10.0
TOTAL	59.3	81.3	105.0

1) Eritrea excluded.

Number of Hospitals, Beds and Physicians[1]

	1949			1956		
	Addis Ababa	12 Provinces	Total	Addis Ababa	12 Provinces	Total
Hospitals.	13	34	47	15	35	50
Beds	1 070	2 405	3 475	2 804	2 835	5 639
Physicians	40	36	76	95	57	152

1) Eritrea excluded.

Although education and health services are still inadequate for the needs of the country there is thus evidence of a favourable trend.

To summarise, agricultural production is increasing at a slow rate, barely exceeding the rate of increase in population. In contrast to the increase in agricultural production all other branches of the economy reveal more rapid development.

Since the agricultural sector plays a dominant role in the overall production of the economy, it is evident that the slow increase in agricultural production must be, to some extent, checking the development of other branches of the economy. This slow development of agriculture is the reason why the rate of increase in the net national product is relatively small.

Net National Product

	Million Eth.$		Index
	1950	1954	1954/1950
Agriculture and Forestry . . .	1 197	1 279	107
Other Industrial Activities .	213	261	123
Services	130	147	113
TOTAL	1 540	1 687	110

The above data show that the net national product increased by about 2.3% a year while the population by only 1.5%. Moreover the annual increase of net national product in industrial activities,excluding agriculture and forestry of about 5.2% was much greater than the average rate of increase of the total net national product.

Although the national income is increasing at a relatively slow rate it is, nevertheless, evident that the economy is moving in a favourable direction especially in those sectors which are of a predominantly monetary character.

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Chapter 2

SOME FACTORS INFLUENCING FUTURE ECONOMIC DEVELOPMENT

Natural Resources

In order to assess the country's existing possibilities and to determine more clearly the general line of progress, it is necessary to analyse the factors influencing economic development, and in particular natural wealth, volume of saving and manpower.

Underdeveloped countries must rely on the growth of primary production in the first stages of their development. Ethiopia is fortunate in possessing rich and varied natural resources for the productive employment of the available manpower. Agriculture must inevitably be the first sector to be developed, thereby providing employment for rural manpower, sustenance for the growing urban population, foreign exchange for financing industrial development and raw materials for future industries. In the first phase of economic development the country's great agricultural potential puts it in a favourable position. However, out of a total cultivable surface of some 55 million hectares only 7.5 million are cultivated. Because of the vast areas still uncultivated or farmed by obsolete methods, it is possible to increase production with a relatively small improvement of agricultural technique. Improved agriculture with its increased purchasing power would create a wider internal market for industrial goods and, at the same time, provide more ample flow of essential foodstuffs for the population. It is therefore necessary to utilise the available land surface more fully and rationally, and to employ the agricultural manpower more productively, thus overcoming the initial and difficult phase of accelerated development.

The country's mineral resources have not so far been sufficiently explored. There are, however, indications based upon some explorations that the development of a mining industry might be profitable to meet internal requirements and, above all, for export. As far as metals are concerned, the iron deposits of Eritrea are of particular importance. The extent of the explored reserves and the quality of the ore open up favourable prospects for the future. Deposits of manganese and chromium are not sufficiently explored, but recent investigations show that there are possibilities of successful exploitation. The geological structure of certain areas and the results of investigations already made should make possible, after more detailed explorations, the exploitation of certain scarce metals, such as wolfram, molybdenum, tin, etc. Deposits of gold and platinum are also of special interest, though their exploitation is small when compared with potential output and the evidence of high metal content. Among deposits of other non-ferrous metals explorations have indicated that copper may exist in sufficient quantities for practical exploitation. The most important deposits of non-metallic minerals are mica, salt and potassium feldspat; there are also indications of large deposits of beryllium. Judging from previous exploration of salt deposits and particularly of potassium chlorides in the area of the Dallol depression, it seems probable that larger primary layers may be discovered in this area.

There are also possibilities for increasing the production of sulphur and also of numerous but as yet insufficiently explored deposits of other minerals, such as asbestos, kaolin, magnezite, graphite, phosphates, etc. The geological structure of some areas offers favourable prospects for discoveries of oil, for which prospecting is already in progress.

The mining industry could be an attractive field for foreign capital, which could contribute to the country's economic development. It must always be remembered that in so vast and insufficiently explored a country as Ethiopia, unforeseen prospects for the further development of mining may open up at any time.

The existence of hitherto unharnessed sources of hydro-electric power constitutes a very important factor which could contribute to the overall development of the economy and of industry in particular. According to studies already completed the net total hydro-electric power potential amounts to about 145 milliard KWH a year, of which the utilisation of about 45 milliard KWH is economically usable.

The conclusion which may be drawn from this overall picture of natural resources is not unfavourable. The development of agriculture could stimulate activity in all branches of the economy, while the utilization of the other resources mentioned could contribute to the simultaneous development of the urban and rural economy. The structure of the country's natural wealth renders possible a balanced development of the whole economy.

Mobilisation of Capital

A low per capita income and lack of sufficient capital are common characteristics of all underdeveloped countries, presenting major obstacles to their development. In Ethiopia, too, the principal impediments to rapid economic development are a shortage of both domestic capital and foreign investment.

The formation of capital in Ethiopia,moreover, presents special characteristics. Commercial capital which is of exceptional importance in the present phase of the country's economic development is predominantly of foreign origin. One of the consequencies of this is that there is not much evidence of commercial capital being invested in industry. This type of capital which is in the hands of foreigners tends to remain in the field of commerce,while, in the main, savings and profits are remitted abroad. The problem is all the more intensified by the fact that a national middle class has not yet so developed to enter the field of commerce and invest capital in productive enterprises.

So far industrial enterprises have shown little inclination to reinvest their profits in the expansion of production.

The volume of available private saving is not sufficiently utilised for productive purposes and so far it is invested mostly in housing. The development of urban centres, particularly Addis Ababa, creates a demand for new dwellings, and for that reason, this kind of investment is for the time being very profitable. On the other hand, the narrow and non-flexible market calls for more enterpreneurial ability and initiative than most savers possess. Underdeveloped banking, i.e. insufficient concentration and direction of saving through the banks, contributes to this orientation of investments. Of course, the importance of housing should not be underestimated,but it would be desirable to induce a change in the structure of private investments by putting more emphasis on productive investments, and thus accelerate economic development.

Under-employed manpower in and outside agriculture should also be taken into account as a substitute for capital. Unlike capital, which is a scarce factor, manpower is abundant. The less a country is developed the greater the possibility of compensating shortage of capital by labour. Some branches of the Ethiopian economy present a convenient opportunity for this form of substitution. Labour could be utilised in many ways. Most justified economically would be to use it in agriculture for the exploitation of hitherto uncultivated areas, thus contributing to an increase of production. The resulting increase in the income of the rural population would raise purchasing power and thus strengthen the market for industrial commodities. In such a way conditions would also be created for increased saving.

Any development programmes for Ethiopia must take into account the paradox of insufficient use of manpower side by side with uncultivated land. The introduction of improved implements in agriculture would lead to a significant increase in production. Under such circumstances it is very important that this improvement could be effected with limited investments.By stressing the importance of promoting agricultural production through better utilisation of manpower and an improvement of agricultural practice it is not intended to underestimate the numerous other factors on which the development of agriculture depends. Labour can also be utilised in other ways, such as for the improvement and extension of public works. In particular the extensive employment of surplus labour is recommendable. The use of unskilled labour can reduce the cost of this kind of investment by as much as 80%. For this reason, the utilisation of low-paid and voluntary labour for constructing roads,railways,etc., can constitute a very important source of investment. The extension of communications is in any case required for the country's economic progress and would stimulate agricultural development. Thus agricultural production would be geared to the market and obtain impetus for further development.

The use of labour is likely to be more efficient within the framework of community programmes in which problems of large concentration of labourers and dislocation from their residences would not appear. Community programmes ought therefore to play an important role in the development plans of the whole country. They provide an important additional opportunity for investments which could not otherwise be met out of the limited central resources. Such works might include the supply of water for consumption and irrigation, the building of secondary roads, schools, water mills, etc. These local programmes, in addition to their economic importance, should be considered in the light of their educational significance.

The fact that despite its small revenue the government has been able to invest a relatively large amount in various development projects is of considerable importance. In recent years about half of total investments was financed by the government. This type of investment must undoubtedly play an increasingly important role in the country's economic development.

Although the total volume of available voluntary saving is limited, it represents an important potential contribution to the expansion of economic activity. It is obvious, however, that in a situation in which all potential sources of investments are not sufficiently utilised, the government must adopt an economic policy that stimulates investment and that canalises saving towards productive activities. The lack of domestic enterpreneurs is a serious drawback in this respect, but experience shows that it would not be difficult to interest domestic savers in economic development if adequate incentives could be provided. The Government must support such an orientation of domestic saving by means of a more extensive and flexible credit policy which could contribute towards the mobilization of insufficient and inefficiently utilized saving both of enterpreneurs and of the public at large.

Adequate measures to stimulate reinvestment of profits are also necessary. This problem is not in fact as simple as it may appear. In a country where capital is scarce and economic initiative lacking, stricter controls might discourage potential investors. Administrative intervention nevertheless seems indispensable. The problem is therefore to discover measures that strike a balance by encouraging reinvestment without discouraging the establishment of new enterprises. It might be expected that the mobilisation of saving and the participation of public finance in investment would serve as an impetus towards accelerating economic development. It is obvious, however, that in existing circumstances the limited domestic savings are insufficient to assure an accelerated development. It is therefore necessary to assure financial assistance from abroad, both from public and private sources.

Population and Manpower

Economic development has a direct effect on the employment structure, causing a wider division of labour and a change in the ratio of agricultural to urban population. This ratio is often taken as a criterion of economic development. A high proportion of rural population with a low per capita income is a characteristic feature of an underdeveloped economy. The fact that about 90% of the population is rural, in addition to the low income per capita, the level and structure of consumption and other relevant criteria, places Ethiopia among the underdeveloped countries. Out of a total urban population, estimated at about 1.2 million, there are only some 20 000 1) industrial workers. A slightly larger number of workers is employed in transport and construction, while a bigger proportion is employed in commerce and handicraft. The formation of an urban population in Ethiopia has been closely associated with the organisation and administration of a modern state, and for this reason a large section of the urban population is employed in the public services and the armed forces. Furthermore a big portion of the urban population finds only temporary employment. It follows that only a small part of this population is productively employed in the various forms of urban economy.

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1) This figure is greater by 2 000 than the figures mentioned in the Chapter on Manufacturing Industry and represents the estimated number of industrial workers employed by enterprises which were not covered by the annual census.

There is no doubt that the lack of skilled labour is one of the greatest impediments to the country's development and is being felt in all fields of the economy. Owing to the shortage of qualified personnel Ethiopia is compelled to obtain experts from abroad. In the present phase of development they are a necessity and it would be very difficult to conceive a greater economic activity without them. For many reasons, however,this situation gives rise to certain undesirable consequences. Foreign experts are very expensive, and such high expenditure imposes no small burden on the economy.Nevertheless, this burden has to be borne now as well as in the future, for the number of qualified Ethiopians is still small and is growing at an insufficient pace.

The country must make great efforts to solve this difficult problem. Without extensive primary education and without raising the general level of technical knowledge among the masses, rapid strides cannot be made in the technological field. One of the major problems is to spread general and technical education among the rural population which is a necessary prerequisite for the further development of agriculture. Instruction even in the use of certain simple tools now common in many agricultural countries, would produce a considerable improvement in agriculture, and would thus be a great contribution to the economy in general. It is no simple task to raise the level of rural education. The literacy rate is still very low, and unless it rises it is difficult to envisage any rapid economic progress. This could,however, be achieved if systematic and resolute action were taken in the field of education.

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Chapter 3

MAIN TARGETS AND LONG TERM PERSPECTIVES

Main Targets

A consideration of the existing economic situation and an analysis of some factors influencing economic growth indicate that an attempt must be made during the next 15 to 20 years to achieve the following general objectives.

(1) The rate of economic development should be accelerated by better utilisation of natural resources in agriculture, mining, forestry, water-power, etc., as well as by better use of other favourable factors which could speed up development.

(2) The Government's economic policy should aim at an expansion of the market and monetary economy, and greater integration of the overall economy. There should also be a more vigorous development of agricultural production and of industry based on agricultural and mineral raw materials.

(3) Communications, transport and power resources should be expanded to an adequate level.

(4) A higher rate of domestic saving and investment should be attained, and foreign means sought to assist the country's development.

(5) Systematic education and training is required to produce qualified personnel and skilled labour.

(6) Economic development should be accompanied by strengthening Ethiopia's position in international trade.

(7) The pursuit of these objectives should raise the general standard of living and it should become possible to extend the public and social services to a growing number of the Ethiopian people. The general lines of long-term development are discussed in the light of these objectives, when dealing with particular sectors.

Agriculture

As has already been emphasised, Ethiopia's agricultural potential has not been sufficiently utilised. The country possesses extensive uncultivated land and numerous livestock, and the agricultural producers could adapt themselves to improved methods of production. Agricultural development can therefore provide a better and more varied diet for the population, more raw materials for domestic manufacturing industries and large surpluses for export. These objectives are essential for the development of the economy, but can only be achieved by greater efficiency of labour and increased productivity.

An expansion of production may be obtained either by extending the surface of land utilised, and increasing the number of livestock or by increasing the yield per unit of land and head of cattle. Both methods could be employed in Ethiopia. As we have seen there are considerable areas of cultivable land which are at present under pasture or totally uncultivated, while,on the other hand, the prevailing low yield per unit might easily be increased if the producer used better tools and improved seeds.

The main obstacle to extending the cultivated area is the low productivity of labour, largely due to the inefficiency of the traditional plough.An increase in agricultural production therefore necessarily depends upon an improvement in the tools and implements employed and on an increase in labour productivity. To solve this question there is no need to bring about fundamental changes in present methods of production, nor is it desirable to give up the kind of tools now in use. What is necessary is rather to replace the present inefficient tools (such as the wooden plough and the old-style sickle and hoe) by more efficient versions of the same tools. This improvement does not therefore require great investment on the part of the producer.Most of the proposed tools can be produced in the country and the people who use them would not require complicated instruction, as they are already acquainted with similar but less advanced models. The use of the modern tools and implements would, however, result in a very significant increase in labour productivity. They would make possible a considerable extension of cultivation, improved agricultural technique and increased yield per hectare, thus insuring an overall increase in production. There is no doubt in due course modern machines, such as tractors, drill-ploughs, and motor threshing machines, will be introduced on the larger farms and plantations, but for the time being the introduction of the simple tools already referred to would yield better results for they can be introduced on farms of a large number of agricultural producers. In the present stage of development this innovation is in fact the only possible step which can be taken on a large scale and which could effect a great expansion of output.

To increase yields and above all to improve and standardise the quality of marketable products it is necessary to introduce and popularise the use of selected seeds. Extensive and systematic action in this field would, however, require the organisation of adequate services as well as collaboration with interested institutions. The Government should take steps to supply seed-grading machines in stations throughout the country where farmers could obtain selected seeds.

For the development of animal husbandry it is most urgent to expand markets for cattle and cattle products. This would induce producers to abandon traditional non-economic considerations and adopt an economic attitude to the breeding and rearing of livestock. The Government should further foster the export of better cattle and its by-products, and should expand existing veterinary services so as to prevent animal diseases.

Time-consuming domestic operations such as the milling of grain, the supply of water and fuel, and the preparation and conservation of food should be improved with a view to increasing labour productivity in household activities and saving time for agricultural work. It would therefore be necessary to carry out measures along the following lines:

(1) Adequate materials, particularly improved tools and seeds, should be procured and their usee popularised.

(2) Experts should be engaged to organise an agricultural extension service which would plan and enforce proposed measures.

(3) Producers should be instructed in modern agricultural technique as part of the agricultural extension service.

(4) The existing organisation for agricultural research should be extended and provision made for close collaboration with the extension service.

An adequate economic policy should also be introduced to implement the above suggested measures. Priority should be given to measures for improving the taxation system, extending agricultural credits, and improving the marketing, transportation and export of agricultural products. One of the main problems in carrying out the proposed measures is the lack of trained personnel. The network of existing schools and training institutions should therefore be expanded.

Since the proposed measures would at first be applied only gradually and as it is bound to take time before the extension service can get into full swing, it may be expected that half the rural households would adopt a more modern method of cultivation, in the first phase a more efficient plough, within the next 15 to 20 years.

Forestry

One of the most important tasks facing Ethiopia is the preservation of existing forests and the afforestation of denuded areas. In recent times there has been extensive deforestation which has not only diminished timber supplies but is also imperilling agricultural production.

High priority should therefore be given to the preservation, cultivation and regeneration of forests. Steps should first be taken to make an inventory of all existing woodlands, specifying the limits of state forests as this is a prerequisite to the formulation of a forestry policy. It is also necessary to expand the forestry service. The next stage should be to work out an afforestation programme which would lay down the areas to be planted. Reafforestation should be mainly undertaken where trees have been cut down in the last twenty years. A network of tree nurseries should be set up and training of forestry personnel intensified. Local authorities should be of considerable assistance in this task.

Mining

The first step to be taken in the development of the mining industry must be to extend and intensify prospecting and geological research. When this stage is completed development programmes should be elaborated. Only then should mines be opened and exploitation begun. Development programmes in mining must therefore be governed by the results of preliminary study and exploration. The importance of systematic exploration lies in the fact that previous investigations, though numerous and covering a long period of time, have been limited and haphazard; their results do not give a clear picture of the country's mineral ground wealth and cannot serve as a basis for estimates either of particular deposits or of the mineral potential as a whole. So far exhaustive examinations have been restricted to deposits of minerals and ores highly competitive on the world market. However, existing placers of minerals emphasise the necessity of undertaking systematic exploration throughout the country. This is indispensable in order to get a picture of mining resources and their role in the economic development of Ethiopia. In recent times there has been some systematic prospecting for oil. The Government should also undertake research in fields of special importance to the country as has already been done with the gold deposits in Adola and the platinum of Yubdo.

Explorations so far carried out reveal good prospects for mining, but the amount of investment required would render it difficult to finance either out of government resources or private domestic capital. Concessions for exploration and, later, for exploitation, might therefore be given to foreign enterprises with or without the participation of Ethiopian capital. This policy might be applied to the exploration and exploitation of iron,copper and other minerals. The Government has already applied such a policy in the case of oil. Domestic enterpreneurs have not so far been attracted to mining,mainly because they lacked sufficient capital. It is obviously necessary to give them an incentive by providing adequate credit, tax and tariff concessions and possibly subsidies. These measures would undoubtedly benefit the entire economy. Natural resources would be more fully utilised and foundation laid for the further development of other branches of the economy. Minerals could be exported until domestic processing industries are built up; this would have a beneficial economic effect, particularly on the balance of payments and the country's financial position. In due course the existence of adequate raw materials and increased financial resources would lead to the development of basic industries which might gradually satisfy the requirements of the domestic market and in some cases obtain outlets into neighbouring foreign markets.

Electricity

Surveys of natural resources suggest that water power is the most important source of energy available in the country. Other sources such as coal and oil have not yet been sufficiently explored, but like wood they are probably of less significance. Hydro-electric power is bound to become the country's basic source of energy in the next phase of development though so far it has been of little use. Preliminary studies show that the country has at its disposal a considerable potential of water-power, sufficient to meet all future requirements.Total gross hydro-electric power potential is estimated at about 145 000 million kwh per year, while economically usable potential amounts to about 45 700 million, provided that adequate storage basins are built on certain rivers. Almost 54% of this usable potential lies in the flow of the river Abbai (Blue Nile), while about 3% is to be found in the Awash. Priority of utilisation, however, cannot be given to the largest source of power as the geographical position of the Awash flowing through the middle of the country and near the areas industrially most developed renders it more appropriate for harnessing.

On a basis of a study of present consumption, which amounted to 49 million kwh in 1955, as well as on a forecast of future requirements total consumption is estimated at 67 million kwh in 1957, 135 million kwh in 1961, about 230 million kwh in 1966 and about 550 million kwh in 1976. These forecasts suggest that a new plant producing an additional 100 million kwh should be built in the immediate future. All evidence goes to show that the most favourable site for this plant should be on the river Awash which could meet the energy requirements of the country for some time.

The utilisation of the Awash entails not only the construction of hydro-electric power stations with adequate storage of water, but also the simultaneous use of such water for irrigation and other purposes. The problem of the utilisation of the Blue Nile (Abbai) requires further systematic study as well as the completion of plans and projects in the course of preparation. It is also necessary for the further development of Eritrea to enlarge the existing hydro-electric power system in order that the output of power should keep pace with economic development.

Since big electric plants cannot meet the requirements of all regions it is indispensable to build in the provinces smaller installations which would not require large scale investment. Priority should be given to areas not yet electrified which are already developed or are likely to develop into administrative, commercial and industrial centres. Systematic research must be carried out in order to select a reasonable order of priority and establish sound projects.

Manufacturing Industry

As has been previously explained the general level of industrial production is much lower than the potential warrants. Industry in recent years has been developing a little faster than before with investments in industry not exceeding an average of about Eth.$ 6.7 million a year. At such a slow rate of development it will be a long time before industry could satisfy even the basic demands of the home market. Further development of industry will, however, be encouraged by the expected extension of communication and power, the availability of capital and expansion of the market. Increased investment opportunities will thus be provided for domestic and foreign enterpreneurs. In existing circumstances industrial development must concentrate on the processing industries making full use of existing supplies of agricultural raw materials. It is important that extensive processing of agricultural products should be undertaken and that some imported commodities be replaced by domestic production. The growth of this kind of production depends, however, upon an adequate development of the raw material base in agriculture.

In the forefront of these are the textile industries making cotton products and sacks, both of which are consumed on a large scale and could be produced from locally grown crops. Next in importance is the food processing industry. It has, on the one hand, to supply the growing domestic market, and on the other, to develop part of its production for export. In this respect there are favourable prospects for increased exports of livestock and meat products, as well as for the establishment of factories for meat processing, sugar refining and oil pressing. It would be desirable to encourage leather tanning, footwear manufacture, timber processing and furniture production, etc., in order to improve the supply to the domestic market and reduce the need for imports in all cases where available raw materials would make this profitable. There is also a need for a metal processing industry to produce and repair agricultural tools and implements. Having in view an extensive building programme new enterprises are needed for the production of building materials such as cement,bricks, glass, etc. Conditions for this development are available as raw materials are plentiful and the demand for these products is increasing.

The growth of industrial production should be accompanied by the development of cottage industries and handicrafts which deserve encouragement since they provide employment and income for a considerable number of the population and supply useful goods for the home market.

Attention should not be concentrated exclusively on the establishment of new enterprises, but also on modernisation and better utilisation of existing establishments. An increase of production in this sphere could be very significant, as any improvement would be directly reflected in increased profits. This is particularly true of Eritrea where capacity is not used to the full and where full production could contribute to meeting the demands of the whole country.

Transport and Communications

The main tasks in the field of communications and transport are the following:

(1) The existing road network should be improved and extended by building new roads, especially into the South, West and North-West of the country, where there are regions not at present linked with the central market and the ports. Similarly the existing railways should be extended so as to become the arteries of communication around which future industrial and agricultural development could be centered.

(2) The highways should be further developed by a radial network of secondary roads spreading deeper into separate regions. The improvement and reconstruction of existing roads should be carried out with this aim in view.

(3) A regular maintenance service on main and secondary roads should be established.

(4) The port of Assab should be developed and enabled to meet all prospective traffic requirements.

(5) The air transport system, including ground installations,should be modernised and extended.

(6) Postal, telephone and telegraph service should be further expanded and modernised.

(7) Transport facilities should be modernised and reorganised so as to reduce road haulage and railway freight charges.

There is an urgent need of good communications to link all parts of the Empire. This is not feasible in the short run, owing to the enormous investment needed to build up a network of communications, particularly at a time when there is an urgent demand for considerable investments in other fields of economic and social life. For this reason, priority should be given to those areas where a network of roads would make the maximum contribution towards the development of the economy as a whole: the region of Sidamo, the area south of Shashemenne and the region of Wollega and Gondar. At present these areas have poor road communications with Addis Ababa, and therefore have only remote access to the railway line and roads leading to the ports. Moreover, the region of Jimma should be linked to that of Gore, Lekemti and Gambella and the Diredawa area with that of Assab. A further development of the road network should cover the important provinces of Harar, Jimma, Gojjam and Begemder before being extended to other regions.

Modern highways able to support intensive all-weather traffic should be built in the principal directions only. In other areas where the traffic is not intensive, as well as on secondary roads, a less expensive method of construction should be introduced in order to secure a network of all-weather roads at a reduced cost. The building of the cheaper type of road should be preceded by thorough technical investigations based on experience gained in the construction of certain existing roads, e.g. roads made of stabilised earth, etc. A serious problem arises over the question of road maintenance. Should the above proposals be implemented a need would arise in the future for the regular maintenance of a network of highways and secondary roads of some 24 000 km. The present method of road maintenance, employing large quantities of machinery, should be changed and supplemented by a greater use of abundant manpower. With regard to road traffic, the aim should be to establish permanent lines of road haulage, especially in areas which have no proper network of communications and where trade has therefore been slow to develop.

The Addis Ababa-Jibuti railway should be extended in a south-westerly direction towards regions where there are bright prospects of economic development. Of the various alternative the best appears to be an extension towards Jimma. The Massawa-Agordat line could be extended to Gondar and eventually linked with the Jibuti-Addis Ababa line extended to Jimma.

Measures for the development of sea-transport should include the expansion of the port of Assab in accordance with the programme already prepared. Installations at Assab should include warehouses with all necessary equipment including cold storage installations. The development of a merchant fleet would require a longer period and considerable financial means as well as the training of personnel. In the next few years, however, it should be possible to provide a certain number of smaller ships which could later form the nucleus of a merchant fleet.

Domestic Trade

In the analysis of the economy it was pointed out that slow development was conditioned by low productivity in agriculture, by insufficient development of secondary and tertiary industries, and by lack of capital. This was reflected by the situation on the market. The development of the market and the extension of the monetary economy depends above all upon the extent and growth of domestic production in these branches of the economy employing the greater number of the population. In such a situation measures to improve trading cannot by themselves break up the vicious circle which is a characteristic feature of so many underdeveloped countries. The starting point for a rapid economic development of the country must be an increase in the productivity of labour in agriculture and a gradual development of industry. The necessary prerequisite of such a development is the building of a communication network and the extensive provision of electriv power. Only as a result of increased labour productivity and production with its consequent higher rate of employment and increased purchasing power can a more flexible market be obtained. In this way, a monetary economy could be developed and the closed subsistence economy in agriculture drawn into the circle of market production. Insistence on the primary importance of increased production and improved communications does not rule out the need for certain measures in the field of trade in order to develop the market. These measures are essential for economic development. Promotion of trade in agricultural products is hence one of the most important ways of increasing overall economic activity.

Foreign Trade

An acceleration of economic development requires considerable amounts of foreign exchange which is needed to finance the import of equipment, building and raw materials, as well as that of consumer goods, the demand for which increases with the development of economic activity. Accelerated economic development generating a tendency to increase imports tends to have a detrimental effect on the balance of payments. It is therefore desirable that some investment should be directed towards satisfying increased demand by an expansion in home production.

As we have seen undue reliance on the export of two or three commodities constitutes a constant danger to economic stability. To avert this danger a long-term plan is needed to achieve a more diversified structure of exports. An important source of exports could be derived from the numerous livestock; other exports could include the products of the agricultural processing industries - sugar, canned meat, leather, etc., and minerals.

Community Programmes

The main task of implementing the Plan falls inevitably on the central authorities of the Government, but questions of improving hygiene and health, of combating illiteracy and raising the standard of living require active cooperation of the local authorities which should also provide social services and public utilities such as local transport facilities and water supplies.

The experience of many countries, with similar problems has shown that improvements in these fields could not be achieved solely by the action of the central administration. The best results were obtained by efforts of local authorities supported by the cooperation of the population at large. Comprehensive measures to provide such facilities may be expected only after the initiative of local authorities has been developed. Local authorities should work out programmes with the assistance of a special department of the central administration. This department should make funds available to the local authorities to enable them to carry out their programmes.

Some Development Problems

Accelerated economic development cannot be expected to proceed altogether smoothly; it is necessary to assume that certain problems will arise.

One of the main problems is the question of raising domestic capital from a population with a low average income. An analysis of national income and distribution shows that there are possibilities of saving which could lead to increased investment in economic development. Potential investors are, however, to be found only within a relatively narrow section of the urban population; there are few among the rural population or even among the majority of the town dwellers. Even the more wealthy section of the community which has the means of saving in the main lacks the tradition and enterpreneurship to invest in anything but real estate. Hence the need not only to stimulate an increase in the volume of saving but also to effect an orientation of investments into productive activities.

Another problem arises out of the neccesity of investing considerable funds in the infrastructure, i.e. basic facilities where there is no opportunity for earning direct profits. Investments in communications and transport, for example, have already absorbed a considerable part of the government's total expenditure and will continue to do so on an increasing scale. Similarly, the Government will have to finance exploratory work in mining as well as other studies, geodetical and cartographical research, etc. Although these investments place a considerable burden on the Government's strained resources their indispensability is beyond doubt. In this regard it is necessary to establish an adequate structure of governmental investments. Another aspect of the investment problem is the need to create a favourable climate for foreign capital, private and public, as well as for international finance which might in some cases be canalised into infrastructural investments.

The problem of developing domestic enterpreneurship has existed for a long time in Ethiopia and it is likely to become more acute with the acceleration of economic development. The solution of this problem is not a simple one for it is bound up not only with material factors but also with a number of complex sociological and psychological questions, for instance, lack of familiarity with modern trading conditions, the mentality of the population, habits, traditions, etc. To foster the growth of an enterpreneurial or middle class is necessarily a slow process which would require careful thought as well as resolute measures of economic policy.

The problem of educating and training sufficient numbers of domestic experts and skilled labour must also be faced. Despite considerable efforts on the part of the Government which have met with some success the shortage of personnel is still one of the most pressing problems.

Economic development will be subject to regional differences, the more so as the country is large and suffers from inadequate communications, making difficult the establishment of an integrated economic area in the near future. Conditions for developing the economy of particular regions vary. Scarcity of financial means necessitates a concentration of investment in those areas where the most favourable conditions exist (natural resources, communications, sources of electric power, general and technical education of population etc.). In the initial phase the economic development of some regions will therefore proceed faster while that of others would for the time being lag behind, though in the long run the general improvement of conditions (communications, education, health services, etc.) will secure the amelioration and integration of economic and social life throughout the Empire.

The acceleration of economic development and the expansion of a market and monetary economy will no doubt disturb the existing balance with a prospect of re-establishing it on a higher level. Such a disturbance cannot be a painless process, but is the way to pull a country out of economic backwardness and strengthen its economy and its postition in international relations.

The great problem of future economic development is to find ways and means of transforming a subsistence economy into a monetary one. The development of industry, handicrafts, commerce and transport is a way of creating a monetary economy, of changing the social and economic structure, and of increasing income per head. By thus establishing an urban economy and creating a higher monetary demand a strong incentive is given to agricultural production though this should not be the only means, and other methods of inducing a transformation of agriculture must be sought. The solution of this problem is very delicate and complex inasmuch as it involves a change in the habits of production and consumption of the rural population. Isolated measures are insufficient. Only a coordinated but flexible economic policy which can stimulate agricultural production and at the same time insure improvements in the transportation and marketing of agricultural production can succeed. Finally, accelerated economic development requires adequate measures of economic policy in the spheres of money and credit, of the market and the balance of payments.

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PART II

GENERAL OUTLINE OF THE PLAN

Chapter 4

PRINCIPAL AIMS AND CHARACTERISTICS

The first Five Year Plan for the economic development of Ethiopia has two basic aims. The first is to accelerate development by a coordinated and actively pursued development policy in the immediate future and the second to lay the foundations for more intensive and overall development in the years following the planned period. The main lines of future development have been conceived in terms of the above objectives and in the light of existing conditions such as economic trends and experience,,economic and social structure, potential and developed natural resources, manpower and availability of skill, investment prospects and the country's position in international trade. Study of these factors has been limited by a lack of statistical data; nevertheless it has been possible to obtain an approximate picture of their influence on the rhythm, pattern and direction of future development. The following is a brief outline of the main objectives and tasks of the Plan.

(1) To direct economic, particularly fiscal and credit policy, so as to mobilize the maximum possible proportion of national income for purposes of economic development and by suitable measures to assure an increase in the inflow of foreign capital, both public and private,for investment within the framework of the Plan.

(2) To give priority in the investment policy to the building up of basic facilities, such as transport and power, which constitute the main physical obstacle to more intensive economic development.

(3) To raise the general level of education and health and in particular to train the necessary technicians for the execution of development projects. Since the accomplishment of these objectives is a prerequisite of future economic prosperity they will require increasing funds as well as constant attention from the government departments concerned.

(4) To accelerate the development and modernisation of agriculture which is the mainstay of the economy and the field in which results can be achieved quickly with relatively modest outlay.

(5) To further the expansion of industrial production based on abundant local supplies of raw materials and the growing needs of the home market. As far as mining is concerned systematic and intensive exploration should be undertaken insuring a more thorough development of mining and perhaps metal-

lurgy in the years subsequent to the planned period. Rapid progress in these spheres would have far reaching effects and would greatly facilitate the modernisation of the whole economy.

The purpose of the above summary is not to give an exhaustive survey but to focus attention on the most important objectives of the Plan. The execution of the Plan should accelerate economic development. Despite the dearth of statistical data in certain fields, an analysis of recent trends has made possible a forecast of the effects of the implementation of the Plan on the economy.The execution of the Plan implies not only the continuation of favourable recent trends but also an accelerated development in all branches of the economy. Investment, industrial production, domestic trade, imports and exports, and budgetary revenues will continue to rise. Further, a significant increase and diversification of both production and consumption may be expected in the near future notwithstanding that about two-thirds of total investment will be devoted to the essential "infrastructural" sectors of the economy which are not directly productive in character and will yield results only in a subsequent period.

The following table gives an idea of proposed development in the coming five-year period as compared with estimated development in the last half decades

Basic Development Trends

Indices

	1950	1954	1957	1961
Total Population	100	106	111	118
			100	106
Active Population in non-agricultural Activities	100	114	122	137
			100	112
National Income	100	110	117	136
			100	116
Gross Product in Agriculture	100	107	112	125
			100	111
Gross Output in Mining, Electricity and Manufacturing Industry	100 1)	154	201	421
			100	210
Total Investments	100	160	200	328
			100	164
Monetary Investments	100	227	332	614
			100	185

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1) This refers to 1951.

A constant increase of investments, in particular monetary investments, is the main factor in accelerating the country's economic development. Total investments should rise from about Eth.$ 100 million in 1957 to Eth.$ 164 million in 1961, i.e. by over 60%. Monetary investments should increase to a much larger extent, i.e. from Eth.$ 73 million in 1957 to Eth.$ 135 million in 1961, i.e. by about 85%. Total investment in the 5-year period is expected to amount to Eth.$ 674 million and monetary investment to Eth.$ 535 million. It is assumed that investment from foreign loans and aid, as well as direct foreign private investment, will amount to about Eth.$ 198 million, i.e. to nearly 37% of total monetary investment. Domestic budgetary revenues and domestic voluntary saving should provide about Eth.$ 258 million, i.e. 48% of monetary investment. Of the remaining Eth.$ 79 million monetary investments, Eth.$ 41 million will be secured from reparation and Eth.$ 38 million will be the budgetary deficit[1] which should be covered from additional foreign sources or to some extent from additional domestic sources. The difference of Eth.$ 139 million between total and monetary investment is represented by agricultural investment in kind.

The most rapid increase of production should be attained in industry, but a more rapid increase than hitherto is also envisaged in agricultural production. The increase in agricultural production should be the outcome of a number of factors already in operation and likely to grow in importance with the years. Among these are the steady expansion of the domestic and foreign markets with the consequent rise in the demand for agricultural products, a series of measures that stimulate agricultural production for the market, improved methods of cultivation and better tools, more productive animal husbandry, etc.

The rate of progress, which may be gauged by the average rate increase in national income, reveals possibilities of significant growth. The average annual increase in national income of about 3.7% which could be attained as a result of the implementation of the Five-Year Plan represents a considerable improvement in comparison with that of the average annual rate of increase of previous years, estimated at 2% to 2.5%. This expected 3.7% increase of national income is considerably higher than the 1.5% increase of population, and implies an important increase in per capita income. This will allow increased consumption as well as an increase in potential domestic saving which is necessary for the fulfilment of the investment programme.

Economic development will be followed by an increase as well as by changes in the structure of employment. In view of the absence of agricultural over-population and the modest possibilities of employment outside agriculture in the first phases of development, the fact that about 140 000 new jobs are expected to be created outside agriculture in the next 5 years, may be considered a satisfactory outcome of the planned development. The proportion of productive jobs will moreover be higher at the end than at the beginning of the planned period.

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1) Total budgetary deficit is estimated at Eth.$ 43 million, of which Eth.$ 38 million comes from capital expenditure and the remainder of Eth.$ 5 million from other budgetary expenditures.

The expected increase and diversification of national income, particularly the greater share of income from non-agricultural activities, will naturaly bring about important changes in the demagraphic and economic structure of which the principal ones are the following: an increase in the number of persons employed outside agriculture and consequent urban growth; a gradual expansion of the market economy and the parallel decline in the rural subsistance economy; the growing importance of national manufacturing industries in supplying the home market; a rapid increase in consumption of manufactured goods, especially in rural areas; a greater share of capital goods and raw materials in imports and in total marketable goods; a growing share of marketable surpluses in total agricultural production.

According to the Plan the bulk of investments in the five-year period will be absorbed by basic facilities, especially by the improvement of the transportation system. The improvement in basic facilities will attract a larger flow of domestic and foreign capital into productive sectors of the economy, laying the foundations for a higher rate of economic progress in subsequent periods. Thus to build a firm basis for a balanced and accelerated development and to ensure the success of future efforts is one of the fundamental tasks of the Plan. This policy is not only reflected in the structure of investments but also in economic, technical and other development measures that form a part of the Plan.

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Chapter 5

INVESTMENTS

The fulfilment of the Five-Year Plan depends primarily on the realisation of the expected volume and structure of investments. The principal accelerating factor of the entire development must be a steadily growing amount of investment alloted to various economic and social sectors according to an established order of priorities. Hence, the investment policy and programme are an essential part of the Five-Year Plan.

Already in recent years there has been a steady increase in investment. It is estimated that in the period 1950-54 total investment increased by about 60%, while monetary investment more than doubled. In relation to the level of national income, however, the attained volume of investment is still small.

It is reasonable to assume that in the next five years this rapid increase in investment, particularly monetary investment, will continue, the more so as a much larger participation of foreign capital is expected. Total investment, as we have seen, is expected to amount to Eth.$ 100 million in 1957, rising steadily to nearly Eth.$ 164 million by 1961, i.e. an increase of slightly over 60%. The increase in monetary investment is of particular importance because the greater part of investment in kind are absorbed by rural housing and increased livestock where productivity is low and improvements have relatively less influence on the development of the economy as a whole. The growth of monetary investment ought therefore to be much more rapid than that of total investment, rising from about Eth.$ 73 million in 1957 to almost Eth.$ 135 million by 1961, i.e. 85%. Thus the share of monetary investment will constantly increase in relation to total investment. In 1950 it constituted some 44% of the total, by 1957 it is expected to reach about 73% and by 1961 about 82%.

At the same time the share of national income devoted to investment will rise steadily. It is estimated that in 1950 this share was quite low, about 3.2% of the national income, whereas it will reach nearly 5.6% by 1957, and according to the Plan, 8% by 1961. Total investment is expected to reach Eth.$ 674 million (Eth.$ 535 million monetary investments) in the coming five-year period. This compares with an estimated total investment of Eth.$ 280-300 million (monetary about Eth.$ 150-170 million) in the period 1950-54. Hence in comparison with the earlier period total investment in the next 5 years should be more than doubled, while monetary investment should be more than tripled. These figures illustrate the magnitude of the effort required to lift the country gradually out of economic backwardness, though the trend of recent domestic investment and the expected inflow of foreign capital confirm that the above forecasts are within the realms of possibility.

Allocation of Investments

The order of investment priorities is determined by the attained level of development, the structure of the economy and the composition and availability of natural resources. One of the principal obstacles to the more intensive economic development of the country under existing circumstances is the rudimentary infrastructure. It is therefore necessary to give investment priority to transport and communications, power facilities as well as to education and health services. Out of total monetary investment of Eth.$ 535 million in the coming five-year period almost Eth.$ 324 million, i.e. about two-thirds, are scheduled for infrastructural investment. Distribution of total investments by sectors is foreseen as follows:

Investments by Sectors

Million Eth.$

	1957-1961
Monetary Investments	534.6
Agriculture	40.3
Forestry	2.8
Mining	37.6
Electricity	43.3
Manufacturing Industry	57.1
Building	2.5
Transport and Communications	240.0
Trade	4.0
Tourism	5.0
Housing	30.0
Health	12.0
Education	20.0
Administration and Others	10.0
Community Development Programmes	25.0
Other Services	5.0
Rural Investments in Kind	139.0
TOTAL INVESTMENTS	673.6

The expected annual growth of investment reveals a gradual increase from Eth.$ 100 million in 1957 to Eth.$ 164 million in 1961, i.e. an increase of slightly over 60%. This expansion may be observed in the following table:

Annual Increase in Investments

Million Eth.$

	1957	1958	1959	1960	1961
Monetary Investments	73	93	110	124	135
Rural Investments in Kind	27	27	28	28	29
TOTAL INVESTMENTS	100	120	138	152	164

The extension and improvement of the transport system has a special place in the investment programme. The lack of modern communications, linking vast and remote areas often having great potential productive possibilities, is the principal obstacle to the economic development of those areas and of the country as a whole. Furthermore, high transport costs are unduly raising the prices of many commodities thereby obstructing the expansion of production, consumption and export. The lack of an adequate transport system is thus the principal bottleneck to rapid economic development. The investment in transport and communications of Eth.$ 240 million, i.e. about 45% of total monetary investment for the next five years, is therefore justified.

In the coming five-year period electric power will probably be the only significant local source of energy. Its rapid development is justified by the existence of an abundant hydro-electric power potential, as well as by the needs of the entire economy, especially manufacturing industry. Investment in this sphere should amount to nearly Eth.$ 43.3 million, i.e. to about 8% of total monetary investment.

In determining priorities an important place should also be given to agriculture, a sector of the economy where productivity is unduly low and conditions for expansion very favourable. Development in this sector is of special significance in Ethiopia where agriculture plays such a dominant role in determining the occupational structure and income of the population. It is therefore important to increase monetary investments in agriculture although it constitutes only a small part of the proposed investments. It must, however, be remembered that in previous years monetary investment, which is far more productive than investments in kind, was almost significant and that a significant increase in agricultural production is possible under existing conditions without large monetary investments. In addition to the rural investments in kind, estimated at Eth.$ 139 million, monetary investments in the agricultural sector is expected to attain about Eth.$ 40 million, i.e. 8% of total monetary investments in the coming five-year period. Productive investments in agriculture should be encouraged in the first place by an expanding credit policy.

The manufacturing industries could expand rapidly because of the plentiful supply of basic raw-materials, especially from agriculture, and to lesser extent from forestry and mining, as well as because of the growing domestic demand for industrial goods. Notwithstanding the small volume of industrial production, its recent significant increase confirms the existence of favourable conditions. Industrial development is important for the growth of a market economy and for the greater diversification of the structure of production, consumption, employment and exports. An important place is therefore given to industries in the allocation of investments, viz. Eth.$ 57 million, nearly 11% of total monetary investment.

Planned investment in mining amounts to Eth.$ 38 million, i.e. 7% of total monetary investment, the bulk of which should be spent on prospecting, thus laying the foundations for a future mining and metallurgical industry.

Smaller sums are to be allocated to construction enterprises (Eth.$ 3 million), and tourism (Eth.$ 5 million).

Investment in housing should be maintained at the level reached in recent years, that is about Eth.$ 30 million.

A substantial increase of investments is envisaged in education and public health. Planned investment in education for the five-year period amounts to a total of Eth.$ 20 million, a figure two to three times greater than that for the period 1950-54. In view of the very low rate of previous investments in public health and the great social and economic significance of improving the health of the people, investments in this field should be increased several fold. It is proposed to invest Eth.$ 12 million in various health services in the next five years.

In administration a policy of retrenchment should govern investment. The volume of these investments should remain at the present level, Eth.$ 2 million a year, or about Eth.$ 10 million in the five-year period.

Community development programmes deserve an important share of investment and should in the next five years receive Eth.$ 25 million from the central authorities, thus promoting, on the local scale, conditions for economic development and for the improvement of social standards. Community development programmes should include the construction of water-supply, drainage and irrigation systems, the building of secondary roads, the creation of forest belts and the execution of various community projects. Subsidies from the central budget should be linked to local contributions either in the form of money or labour.

Sources of Investments

The source of investment and the possibilities of mobilising saving from these sources, key-problems in the Plan, are analysed below. With the exception of public sources the figures should be taken as approximate estimates of potential investment funds.

Financing of Investments by Sources

Million Eth.$

	1957-61
Domestic Sources	397
Budget	144
Bank Loans	44
Direct Private Investments	60
Public Enterprises	10
Rural Investments in Kind	139
Foreign Sources	198
Foreign Loans and Aid	143
Direct Private Investments	55
Reparations	41
Budgetary Deficit	38
TOTAL INVESTMENTS	674

Total planned investments are expected to amount to Eth.$ 674 million in the period 1957-61. Of this sum about Eth.$ 397 million, i.e. 59%, should be mobilized from domestic sources. About Eth.$ 198 million is expected to come from foreign loans, aid and foreign private investments. If only monetary investments are considered (Eth.$ 535 million), the proportion between domestic and foreign sources will be the following: domestic Eth.$ 258 million, i.e. about 48%; and foreign Eth.$ 198 million, i.e. about 37%. Of the remainder, Eth.$ 41 million, i.e. 8% would be covered by reparations, and Eth.$ 38 milllion, i.e. 7% would remain as a budgetary deficit.

To mobilize the proposed domestic funds for the capital formation of about Eth.$ 397 million in the coming five-year period a considerable overall effort will have to be made and adequate measures of economic and particularly of fiscal and credit policy will have to be taken (see Chapter 19). The above forecasts are, however, fully justified by an analysis of recent trends of domestic savings, both fiscal and voluntary, as well as by the expected pace of economic development. In recent years, particularly since 1950, there has been a considerable increase both in fiscal savings and budgetary investments. Investments from domestic budgetary revenues, which amounted to about Eth.$ 15 million in 1950, had reached nearly Eth.$ 30 million by 1956, an increase of 100%.

The policy of financing investment through the budget, i.e. fiscal saving, will continue to be one of the essential means of domestic capital formation and investment policy for the following reasons. Firstly, because two-thirds of monetary investments are infrastructural, devoted as they are to the development of roads, ports, schools and hospitals, which are not directly profit-bearing, and are therefore of no financial interest to private capital. Secondly, because of the difficulty under present conditions of encouraging and mobilizing sufficient voluntary saving and directing it to productive purposes, a difficulty more or less common to most underdeveloped countries. It must be mentioned however that the volume and methods of fiscal saving have been designed to avoid as far as possible a stifling of private initiative, saving and investments, and that the proposed methods do not differ in principle from existing practices in Ethiopia.

The ordinary budgetary revenue is expected to rise from Eth.$ 114 million in 1956 to Eth.$ 167 million in 1961. This should make possible a budgetary investment from domestic budgetary revenue of Eth.$ 144 million in the coming five-year period. Of this sum, Eth.$ 137 million is to be obtained from the central budget and Eth.$ 7 million from local budgets to be invested primarily in promoting urban transport and electrification. The Eth.$ 137 million obtained from the central budget accounts for about 18% of total domestic budgetary revenue,(nearly Eth.$ 765 million). In the previous five-year period, the percentage of total domestic budgetary revenue devoted to investment was as high as 23%; the actual figure being Eth.$ 120 million out of a total domestic budgetary revenue of Eth.$ 525 million. The need to develop all aspects of the country's life did not permit the allocation of a greater share of the domestic budget for capital expenditure.Total budgetary investments will, however, be considerably larger in the forthcoming period on account of foreign loans and reparations which will be allocated through the budget. These together should amount to Eth.$ 171 million,enabling a budgetary investment in the next five years of Eth.$ 353 million (Eth.$ 144 million from domestic budgetary revenue, Eth.$ 171 million from foreign sources, and Eth.$ 38 million of budgetary deficit). This sum represents a large increase compared with total budgetary investments during the previous five-year period, 1952-56 (Eth.$ 138 million) though almost all of this increase comes from foreign payments which were modest in the previous period.

The ordinary budgetary revenues are expected to rise from Eth.$ 114 million in 1956 to Eth.$ 167 million in 1961, i.e. by about 47%. Despite the foreseen increase in domestic budgetary revenue and the expected amount of foreign loans, aid and reparations, some Eth.$ 38 million will remain uncovered. In order to avoid as far as possible inflationary finance with all its adverse consequences, it would be advisable, during the carrying out of the Plan, to consider the possibility of mobilizing additional local funds. An analysis of the problem has shown, however, that the foreseen domestic saving seems to have very nearly reached its potential limit. This suggests that it will be necessary to solve the problem with the aid of additional foreign public loans and assistance. In the long run as the infrastructure is gradually strengthened and per capita income rises there will be new possibilities and incentives for the increased formation of domestic capital.

Budgetary investment from domestic revenue should be concentrated on those sectors of the economy which do not attract private capital and are not covered by foreign loans or aid. Such allocations should be made towards road maintenance, the establishment of large farming estates, agricultural schools and stations, research and exploration in the field of mining,electricity and manufacturing industry, the extension of education and health services, the construction of administrative and other public buildings, and last but not least, the promotion of community development.

It has already been stressed that economic policy must be directed towards the encouragement of productive investment of domestic saving, since it has such an important role to play in the development of the country. Mobilisation of voluntary saving can be carried out through bank deposits and direct private investments. It is expected that bank loans will contribute some Eth.$ 44 million and that direct private investments could reach the level of Eth.$ 60 million within the five-year period. Thus total investment from domestic voluntary saving would reach Eth.$ 104 million. Bank loans should be directed mostly to the development of manufacturing industry(Eth.$ 16 million), agriculture (10 million), electricity (6 million), mining (3 million), and housing (6 million), purchase of motor vehicles (2 million), and tourism (1 million). Domestic direct private investment will probably be channelled mainly to housing, the purchase of motor vehicles, the manufacturing industries, and to a lesser extent to agriculture, trade, tourism and building equipment.

An analysis of expected individual and company income in the next five years shows that potential voluntary saving from this source is estimated at about Eth.$ 100-120 million. Considerable amounts of company and individual income are, however, being transferred abroad and money hoarding is still widespread. Though it is desirable to restrict the transfer of money abroad there are practical difficulties in achieving substantial results in the immediate future. Inspite of this an analysis of various sources of income shows that the estimated volume of voluntary saving can be reached.

The general economic and credit policy required to further these objectives will be explained in Chapter 19. It must be emphasised however that a much more active and flexible credit policy will be required and that steps should be taken to encourage private saving and investment and to direct them to more productive purposes.

Another important source of investment is to be found in the profits of public enterprises (electric power, transport and manufacturing industry), which can be reinvested for purposes of enlargement and modernisation. It is estimated that about Eth.$ 10 million may be obtained from such sources.

The use of voluntary labour for the construction of roads and other development projects could also represent a significant additional source of capital formation. It is estimated that during the next 5 years voluntary labour in the construction of roads alone could contribute some Eth.$ 20 million. Similar if not greater possibilities of utilising voluntary labour exist in the carrying out of various local projects, such as schools, health centres, water supply systems, afforestation, secondary roads, etc., since the local population will show an interest in these projects.

Foreign Financing

Foreign investment funds constitute an indispensable part of the investment programme and are in the next five years expected to amount to Eth.$ 198 million, i.e. 29% of total investment (Eth.$ 674 million), or 37% of total monetary investment. The estimated investment funds from abroad are composed of public loans and aid, Eth.$ 143 million, and private investments, Eth.$ 55 million. Reparations already agreed upon amount to Eth.$ 41 million.

About three-quarters of foreign investments are estimated to be available in the form of public loans or aid. The sources of foreign investment funds are determined by the character of investments to be made in the coming five-year period, the bulk of which is devoted to infrastructural projects, i.e. those that do not bear direct profits. As a general rule foreign private capital is not attracted to this type of investment and the solution therefore lies in financing such projects by means of loans from government and international institutions. The fact that the bulk of such investments are not self-liquidating gives a particular significance to the terms on which foreign loans should be obtained. Thus having in view the character of investments to be financed and the country's general economic possibilities it should be desirable that these funds be secured on the most favourable terms, preferably in the form of aid. The bulk of the Eth.$ 143 million foreign loans and aid should be devoted to the enlargement of transport facilities, the construction of roads and airports, the development of Assab harbour and the telecommunications network. Certain mining projects should also be financed from foreign loans. Foreign aid should be used to a certain extent for investments in education, public health, agriculture, forestry and community development, all of which are essential for the development of the country but constitute a very heavy burden on domestic resources already insufficient to meet present needs.

Foreign private capital has already shown a considerable interest in certain sectors of the economy and it is reasonable to expect that this will not only be maintained but steadily increased with the development of the economy and the constant expansion of the home market. The natural resources of the country, the gradual expansion of the home market, the favourable balance of payments and the various measures of Government policy designed to attract foreign capital, afford a sound basis for a constantly increasing volume of foreign private investment. It is estimated that its inflow will amount to Eth.$ 55 million in the next five years. A major portion of these investments will probably be devoted to oil prospecting and to other mineralogical and geological explorations though there are indications that foreign private investments will continue to be made in manufacturing industries. Some of these investments have been agreed upon while others are under negotiation. In the field of manufacturing industry there are also projects for joint participation of domestic and foreign capital.

The Eth.$ 41 million to be paid as reparations in accordance with the reparations agreement will mainly be devoted to the construction of the Koka hydro-electric system though smaller amounts are expected to be spent on the construction of a textile factory and on the purchase of ships.

Supplementary Programme (Plan B)1)

In working out the above investment programmes due consideration has been given to the volume of domestic and foreign investment obtainable as

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1) A list of projects which could be initiated if additional financial means are available is given in the Appendix.

well as to the need to achieve a rapid acceleration of the country's development. The fact that resources are limited has exerted a significant influence on the Plan for it is impossible to meet all requirements, especially in the field of infrastructure where considerably larger investments are required. Investments in this field are costly and difficult to finance as they do not yield direct profits. Investment in transport, for example, has to be limited to the most important projects indispensable for a planned expansion of production and trade. In view of the need to promote an adequate transport system and other basic facilities at an accelerated rate it is desirable to look for additional foreign funds during the execution of the Plan. A suplementary investment programme has therefore been elaborated, which will depend for its realisation on the possibility of obtaining additional foreign funds for road construction and the improvement and extension of other transport facilities. Plans have also been made to utilise possible additional investments in other sectors of the economy. These include the construction of irrigation systems and model farms, large-scale exploration and the eventual exploitation of mines, extension of the education and health services, and community development programmes. The final form of this supplementary programme will be determined by the volume of additional foreign funds available.

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Chapter 6

BUDGET

The role of the budget will be of crucial importance for the future development of the country. A constant increase of budgetary revenue will be required in order to cover budgetary investment as well as the growing needs of government administration and the public services. The financing of a large part of the investment programme through the budget is necessitated by the fact that a large share of these investments are devoted to the construction and expansion of basic facilities. In many underdeveloped countries it has been found easier to increase budgetary saving than to mobilise voluntary saving. Budgetary saving has the additional advantage that it can be directed to more urgent projects in accordance with the requirements of a planned and balanced economic development. The volume of budgetary saving has, however, to be carefully adjusted to the taxable capacity of the country so as not to discourage private initiative, saving and investment.

One of the principal characteristics of recent development has been the rapid increase of budgetary revenue and expenditure. In recent years there has been a tendency for the budget to be used not solely as a means of meeting the current needs of the administration and public services, but also to some extent as an active instrument of development policy. Budgetary investment has increased from about Eth.$ 19 million in 1952 to nearly Eth.$ 30 million in 1956, i.e. an increase of nearly 63%. This increase was financed principally from domestic budgetary sources, the share of foreign funds being very small. This development is favourable evidence that the budget can accomplish the important role reserved for it in the Plan.

It is estimated that administrative expenditure in the period 1957-61 will amount to Eth.$ 615 million and budgetary investments from domestic sources to Eth.$ 137 million, a total of Eth.$ 752 million. During the previous five years domestic sources accounted for about Eth.$ 416 million in administrative expenditure and about Eth.$ 120 million in budgetary investments, a total of Eth.$ 536 million. The sum of Eth.$ 752 million which is to be secured from domestic fiscal revenue in the next five years represents an increase of about Eth.$ 216 million, i.e. 40% over the last five years. However, a further Eth.$ 130 million should become available for budgetary investments from foreign public loans, and Eth.$ 41 million from reparations.

Since it has not been possible to meet foreseen budgetary expenditures to the full, a deficit of Eth.$ 43 million is expected for the coming five-year period. The bulk of this deficit is not due to ordinary administrative expenditure, but to an increase in investments for the accelerated development of the country. There has indeed been a similar deficit in previous years. During 1952-56 increased budgetary investment led to a deficit of Eth.$ 27 million.

Budgetary Revenue

There was an average annual increase of about 9% in domestic budgetary revenue during the last five years. It is proposed to maintain this rate of increase in the next five years which will not imply a significant intensification of the fiscal burden upon the economy. The proportion between the amount of domestic budgetary revenue and estimated national income in 1954 was Eth.$ 119 million to Eth.$ 1 687 million, i.e. 7%; the corresponding figures for 1961 are Eth.$ 172 million to Eth.$ 2 084 million, i.e. 8%. If on the other hand domestic budgetary revenue is compared with the portion of the national income earned in the monetary sectors of the economy, the share of domestic budgetary revenue remains more or less constant at 18% during the planned period. It is evident from the above data that the foreseen increase of national income, especially in the monetary sector, will enable the realisation of the planned volume of domestic budgetary revenue. In the forthcoming period fiscal policy should evolve more efficient methods of collecting budgetary revenue, and fiscal machinery should apply these methods more efficiently.

Total domestic budgetary revenue should increase from Eth.$ 114 million in 1956 to Eth.$ 172 million in 1961, i.e. an average increase of about 9% per year which will be made up of direct and indirect taxes, custom duties and other revenues.

Estimates of budgetary revenue are as follows:

Budgetary Revenue

Million Eth.$

	1952	1956	1952-56	1961	1957-61
Ordinary Revenue	80	114	497	167	740
Direct Taxes	27	23	133	45	190
Indirect Taxes	10	19	68	32	125
Custom Duties	33	40	205	52	250
Other Revenue	10	32	91	38	175
Extraordinary Revenue . .	10	1	46	34	196
Domestic Extraordinary Revenue	5	-	28	5	25
Foreign Loans	5	1	18	27	130
Reparations	-	-	-	2	41
TOTAL	90	115	543	201	936

Budgetary Expenditure

It is expected that ordinary budgetary expenditure, excluding budgetary investments, will increase from Eth.$ 99 million in 1956 to Eth.$ 140 million in 1961, an increase of 41% or about 8% a year. This compares with an average annual increase during the last three years (1954-56) of 7%. Notwithstanding this increase it will be indispensable to economise to the greatest possible extent in administrative expenditure.

In forecasting the ordinary budgetary expenditure particular attention has been paid to the needs of the public services which are expected to expand in the coming five years, thus necessitating larger allocations for the Ministries of Agriculture, Education and Public Health. In the sphere of agriculture services which are indispensable for further development should be expanded. A network of agricultural and veterinary schools, agricultural and extension service stations, breeding stations and other necessary institutions should be formed. By means of larger budgetary allocations the Government will have to create conditions, facilities and incentives for the promotion of agricultural production. It is therefore expected that the Ministry of Agriculture's budget would reach about Eth.$ 8.7 million compared with Eth.$ 1.2 million in 1956 (excluding investments). Another sector requiring expansion is that of education. Expenditure in this sphere should increase along the lines laid down in the five-year programme. Excluding investment (about Eth.$ 4 million in 1961), ordinary budget expenditure in the sphere of education should account for about Eth.$ 19 million in 1961. This compares with Eth.$ 13.5 million in 1956, an increase of about 41% in the coming five-year period. An increase in expenditure is also proposed for public health: about Eth.$ 5 million in 1961, excluding investment, as against the Eth.$ 4 million spent in 1956. This shows an increase of 25%. Funds will have to be set aside to finance new institutions and services needed to implement and supervise the Plan. A total of about Eth.$ 3 million is considered sufficient to cover the running costs of these institutions and services in 1961.

Budgetary expenditure (excluding investments) on all other Ministries and services is expected to attain Eth.$ 104 million by 1961, which compares with Eth.$ 81 million in 1956, an increase of about 28% or a yearly average increase of about 5%. This rate of increase should meet the essential requirements of government administration. The basic orientation should be to satisfy the requirements of services which play a decisive role in economic and social development, without neglecting the legitimate claims of other services which are indispensable for the functioning of a modern state.

The principal role of the budget in financing investments should always be kept in mind. The volume of budgetary investments should increase constantly so that by 1961 it would be 120% larger than in 1956.

A summary survey of budgetary expenditure is given below:

Survey of Budgetary Expenditure and Revenue

Million Eth.$

	1952	1956	1952-56	1961	1957-61
Total Budgetary Expenditure	84	131	570	209	979
Salaries and Other Ordinary Expenditure	63	99	416	140	615
Capital Expenditure . .	19	30	138	66	346
Extraordinary Expenditure	2	2	16	3	18
Total Budgetary Revenue . .	90	115	543	201	936
Total Ordinary Revenu .	80	114	497	167	740
Domestic Extraordinary Revenue	5	-	28	5	25
Foreign Loans	5	1	18	27	130
Reparations	-	-	-	2	41
Balance	+ 6	-16	-27	-8	-43

It will be noted that the budgetary expenditures envisaged for 1961 (Eth.$ 209 million) will only partially be met by the expected revenue of Eth.$ 167 million. The difference, Eth.$ 42 million, should be covered by Eth.$ 5 million from domestic extraordinary revenue, Eth.$ 27 million from foreign loans and aid, and Eth.$ 2 million from reparations, leaving a deficit of Eth.$ 8 million for the year.

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Chapter 7

NATIONAL INCOME

The tempo of overall economic development is reflected in the growth of national income. The fulfilment of the five-year investment programmes and implementation of the other proposed measures should bring about an increase in the national income. The average annual increase during the last five years was estimated at between 2 and 2.5%. It is expected that an average annual increase rate of 3.7% can be achieved in the forthcoming five-year period. Inspite of the fact that one of the fundamental objectives of the Plan is to lay the foundations for an overall and accelerated development in the years subsequent to the planned period, the above figure (3.7%) shows that the economy is endowed with resources which can be mobilised in a relatively short time with modest financial means. Progress so far achieved in the sphere of industry, investments, budget, and foreign trade has laid a significant basis for the attainment of the expected pace of development in the planned period. These gains together with an overall economic plan and an active and co-ordinated development policy constitute an assurance that the economy is capable of accomplishing the accelerated development envisaged in the Plan. The rate of increase in national income will not be equal in all sectors of the economy. It will be higher in the monetary, urban economy, and in particular in the spheres of manufacturing industry and electric power production. This increase is shown in the following table:

Growth and Composition of Net National Product 1)

Million Eth.$

	1950	1954	Index 1954/1950	1957	1961	Index 1961/1950
Agriculture and Forestry . .	1 197	1 279	107	1 344	1 495	111
Mining	3	3	100	3	4	133
Electricity	2	3	150	3	6	200
Manufacturing Industry . . .	15	22	147	31	57	184
Handicrafts.	54	58	107	61	71	116
Construction	6	13	217	17	27	59
Transport and Communications	50	62	124	72	101	144
Trade	83	100	120	113	145	128
Various Services and Other .	130	147	113	157	178	113
TOTAL	1 540	1 687	110	1 801	2 084	116

1) The data for 1950 and 1954 are based on estimates where more precise statistical material was not available.

The above table shows that the largest rate of increase in production and income is to be expected from electric power. Though the contribution to national product will remain small, increased electric power is indispensable to an expansion of overall production. The doubling of electric power production, almost the only source of energy in the planned period, will be essential for further industrialisation of the country.

The next most rapid rate of increase in production and income is in the sector of manufacturing industry. In this sector conditions for expansion are favourable because of the large supplies of agricultural raw materials and the growing demand of the domestic market which at present is largely met from imports. The increase in the index of net product in manufacturing industry in the next five years stands at 184, an average annual rate of increase of about 17%. This indicates that the manufacturing industries are likely to develop at an accelerated rate in the future, though the share of industry in net national product will even then scarcely be significant. It should be the purpose of economic policy to foster the greatest and most rapid expansion of a modern exchange economy, penetrating more and more deeply into agricultural regions and supplying the market with increasing quantities of industrial products, thereby eroding the old backward, self-sufficient rural economy and transforming it gradually into a modern market economy.

More intensive economic activity can also be expected in the fields of construction, mining, transport and communications. Planned investments for 1957-1961 are expected to raise the index of net product to 159 in construction. The corresponding indexes are 140 in transport and communications, 133 in mining, 128 in trade, and 144 in banking. Though what can be accomplished in a five-year period is limited, these increases indicate a rapid expansion in precisely those branches of the economy which are most important for the transformation of a still predominantly subsistence economy into a modern monetary economy.

In 1957 net product in agriculture, which is still the basis of the economy, contributed 75% of net national product. It is estimated that the annual increase in income from agriculture has been only slightly more rapid than the increase of population: 1.5 to 2.0% as against 1.5%. This means that one of the principal reasons for the relatively slow development of the overall economy, as reflected in the rise of national income, is therefore the very slow improvement in agriculture. To break this relative inertia in agriculture it will be necessary to frame a coordinated policy and make considerable efforts in the next five years. Natural conditions are relatively favourable and a number of the necessary measures have already been taken. It is therefore to be hoped that the economic policy for agriculture contained in the Plan will begin to produce results in the forthcoming period. The expected development of domestic industry, the improvement of the transport system and the general expansion of the domestic market and monetary economy will all contribute to the promotion of agricultural production and enable an increased volume of agricultural products to reach the market. Net product in agriculture is therefore expected to increase by about 11% over the next five years, an average annual increase of 2.7%. Comparison with the average annual increase in previous years, estimated at 1.5 to 2%, illustrates the significance of these developments in this most important branch of the economy.

In view of the relatively high rate of population increase per capita income will rise at a considerably slower rate than national income. Thus although overall national income is estimated to increase by about 16% over the next five years, per capita income should increase by only 10%, i.e. from Eth.$ 91 in 1957 to about Eth.$ 100 by 1961.

As already explained the share of net product in the urban monetary branches of the economy will remain small despite their expansion in the forthcoming period. It is however significant that the share of combined non-agricultural net product is expected to rise from 24% in 1954 to about 28% in 1961, thereby contributing to a greater diversification of the economy and a larger division of labour. Significance should also be attached to the fact that manufacturing industry, the most productive branch of the economy, is the sector where net product is expected to increase fastest i.e. increasing its share from 1.7% of net national product in 1957 to 2.7% in 1961. The following table shows the structural changes to be expected in the economy during the next five years.

Composition of Net National Product1)

	1950	1954	1957	1961
Agriculture and Forestry	77.7	75.8	74.6	71.7
Mining	0.2	0.2	0.2	0.2
Electricity	0.1	0.2	0.2	0.3
Manufacturing Industry	1.0	1.3	1.7	2.7
Handicrafts	3.5	3.4	3.4	3.4
Construction	0.4	0.8	0.9	1.3
Transport and Communications	3.3	3.7	4.0	4.9
Trade	5.4	5.9	6.3	7.0
Various Services and Other	8.4	8.7	8.7	8.5
TOTAL	100.0	100.0	100.0	100.0

The small size of per capita income influences the distribution of national income. At present the bulk of the national income is absorbed by subsistence needs and relatively only a small amount can be mobilized in the form of fiscal or voluntary savings to meet the needs of administration, public services and economic development. A gradual rise in the rate of internal saving, which is one of the basic factors determining the tempo of economic development, can result only from an increase in per capita income. No radical changes are therefore to be expected in the overall distribution of income in the next five years, though the following table reveals significant tendencies towards an increase in the share of investment and corresponding decrease in the share of private consumption in the distribution of national income.

Composition of Net National Expentiture[1]

	1950	1954	1957	1961
Private Consumption	93.5	90.9	90.7	87.0
Net Investments	3.2	4.7	5.6	7.9
Government Consumption (Excluding Investments and Salaries)	1.3	1.8	1.8	2.3
Increase in Stocks	1.0	1.2	1.3	1.5
Balance of External Transactions	1.0	1.4	0.6	1.3
TOTAL	100.0	100.0	100.0	100.0

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1) Data for the years 1950 and 1954 are mainly based on estimates except Government consumption and balance of external transactions for which complete statistics are available.

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Chapter 8

DOMESTIC MARKET AND PERSONAL CONSUMPTION

Size and Structure of Domestic Market

The enlargement and diversification of the home market and of consumption may be regarded both as a result and a condition of economic expansion. Despite the considerable recent growth of the exchange economy the home market has remained narrow and inflexible. The greater part of agricultural production (excluding certain major export articles and cereals for the home market) is still part of a backward subsistence economy based on the relatively modest needs of the peasant population. With the exception of the aforesaid cash crops the sphere of exchange economy is largely restricted to urban areas and their vicinity. One of the effects of this undeveloped market situation is the one-sided commodity structure. The bulk of commodities sold are articles for personal consumption, predominantly textiles and foodstuffs.The share of investment goods, raw materials and semi-finished goods is very small. The structure of personal consumption is similarly one-sided. The consumption of the greater part of the rural population is almost exclusively limited to agricultural products produced to meet self-subsistence requirements, and the consumption of the urban population also consists mainly of food-stuffs. Side by side with this low and one-sided consumption pattern, there is, as in many underdeveloped countries, a highly developed type of consumption limited to a small number of urban centres and a narrow high-income group of the population. A further characteristic of the present local market is that the bulk of industrial goods are imported, local industry meeting only about a fourth of domestic needs. These are typical features of an underdeveloped economy with little division of labour.

Economic development and industrialisation in particular will bring about gradual extension of the market economy. This in turn will stimulate economic development as a whole, bringing the hitherto closed and self-sufficient sector of agricultural production into the circle of the exchange economy, thus creating indispensable conditions for a gradual modernisation. Expansion and diversification of the market in present circumstances depends on two main factors. Firstly, on an increase in the division of labour,the basis for the extension of the exchange economy, occuring through an expansion of home industries. An important role is therefore given in the Plan to the development of local industry and other sectors of the urban economy. Secondly, on the improvement and extension of the transport system, particularly the linking of areas hitherto poorly connected. Investment in transport receives priority in the Plan and should have a favourable effect on the expansion of the market.

A considerable increase in commodity exchange may therefore be expected in the next half decade. Thus while the increase in national income is expected to be about 16%, the increase in commodity exchanges should amount to about 36%. As has already been pointed out, the most important factor in this increase will be the expansion of home industry the output of which should be doubled by 1961, thus substantially reducing the country's dependence on imports.

Hitherto only about 25% of manufactured goods entering the market were locally made, but by 1961 domestic manufactured goods should approximately attain the value of imported goods, thus increasing their share in total consumption of these goods to about 50%. Progress in agriculture will be no less important for the development of the market for it will result in an increase not only in total production but also in the marketable surplus which will rise in both relative and absolute terms. Sufficient stimulus for the extension of the market economy in agriculture will be afforded by the growth of the urban population and the consequent increased demand for food-stuffs and agricultural raw materials, as well as by increased exports of cash-crops. The volume of marketable surplus may therefore be expected to rise by some 27% over the next five years and its share in total agricultural production from 18% to 22%. These changes will naturally be accompanied by a greater diversification in the composition of commodities as is invariably the case in economic development. The local market is at present based mainly on personal consumption goods; investment goods, raw materials and semi-finished goods are together estimated at no more than 16% of the commodities offered to the market. Increased investment and the expansion of home industry should raise this figure to about 18%. The expansion in home industry will bring about a considerable increase in the demand for local raw materials and semi-finished goods particularly those derived from agriculture. The enlarged local raw material basis will be able to supply local industry with steadily increased volume of raw materials, but the requirements in investment goods, mainly industrial and transport machinery and equipment, will be covered from imports.

Personal Monetary Income and Expenditure

In order to avoid economic instability an expansion in production should always be accompanied by an adequate increase in demand, that is purchasing power. The Plan is anticipated to meet this requirement for it is estimated that the market in the next five years be able to absorb the local industrial output as well as estimated agricultural market surpluses. The increased purchasing power will come from three main sources: the growing income of the population, the expansion in the demand of industry for raw materials and semi-finished goods, and the increased demand for construction materials required in the implementation of the investment programme. An increase is expected in the monetary income of both the urban and rural population. The former will be growing in number and earning higher wages and salaries, while the latter's purchasing power will rise as a direct result of increased sales of agricultural produce. An increase may also be expected in the income of the professional classes as well as in rents though the latter will be smaller. The following table shows anticipated changes in the sources of monetary income during the forthcoming five-year period:

Estimated Personal Monetary Income

Million Eth.$

	1954	1957	1961
Agricultural Population	215	234	308
Sales of Agricultural Products	210	228	300
Earnings Outside Agriculture	5	6	8
Non-agricultural Population	354	381	455
Wages and Salaries	160	176	220
Professions Earnings	116	126	150
Rents and Others	78	79	85
TOTAL	569	615	763

On the basis of these increased incomes the following pattern of expenditure is expected.

Estimated Personal Monetary Expenditure

Million Eth.$

	1954	1957	1961
Agricultural Population	215	234	308
Purchase of Goods	170	186	249
Payment for Services	14	15	18
Direct Taxes	18	19	23
Investments	2	3	5
Money Hoarding	11	11	13
Non-agricultural Population	354	381	455
Purchase of Goods	286	307	355
Foodstuffs	191	200	226
Others	95	107	129
Payment for Services	49	52	59
Direct Taxes	4	4	16
Saving	15	18	25
TOTAL	569	615	763

According to the above estimates, total personal monetary expenditure on goods whould amount to Eth.$ 493 million in 1957 and Eth.$ 604 million in 1961. These sums should be compared with the total value of estimated industrial and agricultural commodities offered on the home market. This may be seen in the following table:

Estimated Structure of Personal Consumer Goods (Value)

Million Eth.$

	1954	1957	1961
Agricultural	154	186	216
Industrial	69	96	203
Handicrafts	40	42	46
Imports	185	186	155
TOTAL	448	510	620

The difference between expenditure and the value of commodities available for personal consumption represents an increase in stocks, as well as possible errors in estimation owing to insufficiency of data.

Personal Consumption

The basic objective of future policy and condition for accelerated development is a constant increase in domestic saving, i.e. the mobilization of the greatest possible part of national income for investment purposes. This means gradually increasing the share of national income devoted to investment and reducing the share which goes to private consumption. According to the Plan the share of investment should rise from 5.6% to 7.9% in 1961, while the share of private consumption should fall from 90.7% in 1957 to 87.0% in 1961. This slight reduction is, however, only relative for in absolute terms both total private consumption and private consumption per capita will rise. Thus the growth of national income will be sufficient to permit an increase in the standard of living and a higher rate of domestic saving, with a consequent increase in investment. The implementation of the Plan is expected to raise total consumption by 1961 to about 12% above the level of 1957. This rate of increase is appreciably less than the anticipated growth of national income (16%), and justifiably so, as too high an increase in private consumption at the present stage would inevitably slow down the tempo of economic development and thereby make more difficult a rise in the standard of living in the future.

An increase in consumption, though on a modest scale, is expected. The rise in the standard of living is, however, likely to be slightly more rapid for the urban population. This is because it will probably not be possible in the near future to mobilise increased agricultural income to a greater extent for direct investment or other forms of saving. Even in the economically developed countries capital formation is a more difficult problem in the agricultural than in the urban economy, and the rate of investment considerably lower. By 1961 income from agriculture is anticipated to reach Eth.$ 1 490 million, as compared with about Eth.$ 1 277 million in 1954, an increase of some Eth.$ 213 million. It is considered that about 90% of this increase will be spent on privat consumption and only 10% on investments and taxes.

Development in the urban economy will be quite different. Income is expected to increase in this sector from Eth.$ 410 million in 1954 to Eth.$ 594 million in 1961, but probably only 35% of this anticipated increase (Eth.$ 184 million) will be consumed by the non-agricultural population, while about 65% will be absorbed by investments, increase in stocks, bank deposits, money hoarding and transfers abroad. This development is to be expected since per capita income of persons employed in non-agricultural activities is about four times higher than that of persons employed in agriculture and their opportunities and incentives for both corporate and personal savings are considerably greater, while the habit of saving is more widespread. Within the urban economy there are also incomparably greater technical and administrative opportunities for budgetary revenue. It follows that the bulk of investments will probably be obtained from the rising income of the urban population. This development is indeed desirable as the rural population, with a standard of living mainly limited to satisfying subsistence requirements, is in greater need of better living standards in the immediate future.

Certain changes are also anticipated in the overall structure of private consumption, especially in the increasing share of manufactures. Whereas the share of industrial goods, including the handicrafts, was estimated at about 17% in 1954, it is expected to reach about 21% by 1961. The increase in agricultural production and marketable surpluses with the consequent increase in rural monetary incomes will undoubtedly create a rapid increase in the rural consumption of industrial goods. If the basic aims of the Plan are attained this consumption is expected to increase by about 34% in the five-year period, while the share of industrial goods in the total consumption of the rural population should rise from about 14% to 17%. Important quantitative changes are not expected in the structure of consumption of the urban population though the following tendencies are operative. There will be a slight fall in the share of income devoted to the purchase of foodstuffs and a gradual rise is expected in the share of household durable goods. It will, however, be in the interest of economic development to confine the import of durable consumption goods, such as motor cars, within reasonable limits by means of customs and fiscal policy.

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Chapter 9

FOREIGN TRADE AND BALANCE OF PAYMENTS

Economic development will have certain effects on foreign trade and balance of payments. Not only will imports increase in volume but their structure will change. Capital goods and goods in process will occupy a much greater share in imports though, in absolute terms, consumption goods will increase slightly and have a different composition. Exports will grow at about the same rate as imports, but no great change in their composition is expected in the near future. The value of agricultural commodities will still comprise 95%, and coffee, hides and skins, and oilseeds about 80% of the total. There remains a need for a considerable diversification of exports and a tendency in this direction may be discerned.

Though accelerated industrial development will reduce the demand for some imported goods, there will be an overall increase in the demand for imports and foreign services. Repayment of foreign loans and interest payments must also be taken into account. In order to meet all these needs it is essential to expand exports which can mostly be achieved by drawing on the agricultural potential. The need to secure safe export markets and price stability is intensified as the country will still be relying to an overwhelming extent on such agricultural products as coffee, hides and skins, oilseeds, and live cattle. A favourable demand on the world market could, however, without any great effort in domestic production lead to an expansion in the export of pulses and cereals. A fair increase in the export of other products which in the last five years accounted for 11% of the export may also be expected. The foreseen expansion of industrial production, particularly in consumption goods, will reduce the demand for imported consumption goods and thus enable the increased import of capital and other goods required for economic development. Increased imports, other services, etc., necessary for an accelerated pace of economic development cannot in the short run be paid to the full by exports. It is therefore advisable to continue the policy of attracting both public and private investment from abroad, if possible on a larger scale than before. It will also be necessary to seek a larger amount of foreign loans and aid. It would be desirable also to begin negotiating economic, trade and payments agreements with other countries. Such a policy would guarantee the country larger and more secure markets for its produce, eliminate or at least lessen its trade deficits with certain countries and regions, and provide a broader basis for mutually beneficial economic cooperation which could materially assist the process of development.

Export

Analysis shows that exports could be increased from Eth.$ 154 million in 1955 to over Eth.$ 228 million in 1961, an average annual increase of about 7%. This increase would come mostly from agriculture which plays an overwhelming part in the export trade. In the initial period the increase would come from the utilisation of existing agricultural reserves which at present are scarcely receptive to the demands of an exchange economy, while in the future increased production will become the determinant of greater export.The fact that about half the total value of marketable agricultural surpluses are exported suggests that exports can provide a fairly strong incentive for the increase and development in agriculture. The share of export in national income is expected to rise from about 10% in 1957 to about 11% in 1961. If monetary income alone is considered the corresponding figures are 26% for 1957 and 25% for 1961.

The structure and development of exports is shown in the following table:

Structure of Exports

Million Eth.$

	1951	1955	1951-55	1957	1961	1957-61
Coffee	56.3	85.3	396.1	110.0	143.0	627.0
Cereals and Products	3.5	2.2	21.1	2.6	3.1	13.9
Oilseeds and Products	8.8	16.2	69.3	14.5	16.0	76.0
Pulses	5.9	8.8	44.8	10.0	12.0	55.0
Hides	20.1	4.0	48.4	4.5	6.5	26.7
Skins	10.3	11.4	49.4	12.0	13.0	61.0
Live Cattle	0.1	3.2	3.9	3.6	5.2	21.4
Chat	0.7	6.5	14.2	7.0	8.0	38.5
All Others	5.8	16.4	64.7	17.7	21.0	98.0
TOTAL	111.7	154.0	711.9	181.9	227.8	1 017.5

The export of coffee, at present the principal export commodity, will be considerably increased though stronger competition is expected on the world market..According to present forecasts it will rise from Eth.$ 85 million in 1955 to about Eth.$ 143 million in 1961. This constitutes an increase of 68%, and means that this one commodity will contribute 63% instead of 55% of total exports. This increase may be attributed to better cleaning,sorting and packing, as well as to better seedlings and an enlargement of the area under plantation.

A bigger increase in the export of oilseeds is not at present anticipated though this should be easy to effect if the demand warranted it. On the assumption that there will be no larger increase in demand the share of oilseeds in total export will remain at slightly over 7%.

A considerable increase is expected in the export of skins as a result of an anticipated increase in the world demand and Ethiopia's ability to export this commodity in large quantities. The share of skins in total exports in 1961 should be 6%. The country also possesses large supplies of hides which could be exported but the demand of the world market is liable to fluctuation. It is estimated that hides to the value of about Eth.$ 6.5 million can be exported in 1961, as against Eth.$ 4 million in 1955, an increase of some 63% though a fall in prices is expected. In order to attain and surpass the above-mentioned targets careful and constant consideration should be given to methods of selling hides and skins most advantageously on the world market. In this regard the extension of the veterinary services is also of great importance.

It appears that the export of pulses could also be moderately increased, but this will depend on world demand as domestic production is sufficiently large to meet all probable requirements. The share of pulses in total exports in 1961 should be at least 5%.

No significant increase is expected in the export of cereals during the planned period though the existing level should be maintained. It may,however, begin to rise at the end of this period as result of improved transport facilities.

A substantial increase in the export of cattle is foreseen. By 1961 it is expected to reach at least Eth.$ 5 million which compares with Eth.$ 3 million in 1955. The 1961 estimate represents the minimum possible export, and every effort should be made to exceed it. There is no danger of the numbers of livestock being unduly depleted; on the contrary, increased exports will assist the extension of an exchange economy in the rural areas and make people more interested in introducing modern methods of animal husbandry. The expansion of veterinary measures,better control of disease,improved cattle breeding, the establishment of purchasing stations and development of the transport system will assure the expansion of cattle exports.

Chat and other exports, which in 1955 accounted for Eth.$ 23 million,are expected to increase by more than 27%, i.e. to about Eth.$ 29 million by 1961. They will then constitute about 13% of total exports.

As may be seen from the above review even on the basis of existing agricultural production it is possible to achieve greater exports. The principal problems are poor transport facilities, high freight rates, low quality of some products due to inadequate methods in production and processing,and world market fluctuations.

Import

Because Ethiopian industry is at present in its initial stage of development, consumption goods have been imported on a large scale. Thus the value of imported manufactures was in 1954 double that of local industrial production (calculated at wholesale prices). By 1961, however, it is expected that local industrial production will be about equal to industrial imports, despite the fact that imports will have increased by 34%. In the following year, 1962, when all industrial capacities both planned and existing will be used to the full, industrial production will actually surpass imports. It is expected that imports will come to about Eth.$ 207 million, i.e. 34% more than in 1954, or 22% more than in 1957.

The following trends are to be expected in the structure of imports:

Structure of Imports

Million Eth.$

	1951	1955	1951-55	1957	1961	1957-61
Consumption Goods	62.9	95.8	421.1	90.4	85.7	433.5
Durable Goods . .	3.1	12.4	33.4	12.0	14.5	65.5
Non-Durable Goods	50.9	67.9	311.4	61.6	50.4	277.7
Passenger Cars . .	3.4	7.6	31.8	8.1	8.6	41.9
Others	5.5	7.9	44.5	8.7	12.2	48.4
Capital Goods	14.0	36.2	109.5	45.3	70.7	308.3
Machinery and Equip.	4.3	13.4	40.8	11.1	23.0	100.8
Building Materials	2.3	5.1	20.1	6.0	11.0	46.0
Transport Equipment	7.4	17.7	48.6	28.2	36.7	161.5
Goods in Process . . .	18.4	30.6	132.1	34.8	50.9	218.5
TOTAL	95.3	162.6	662.7	170.5	207.3	960.3

Import of capital goods should be increased threefold and be valued at over Eth.$ 300 million in the next five years. Out of this sum about Eth.$ 100 million should be spent on equipment for industry, electric power, mining and agriculture as compared with Eth.$ 41 million in the preceding five-year period, Eth.$ 162 million on imports of transport equipment as against Eth.$ 49 million and Eth.$ 46 million on construction materials as compared wuth Eth.$ 20 million. Capital goods would thus comprise during the planned period about 32% of total imports as against 17% over the preceding five years.

To achieve the necessary expansion of production in all branches of the economy, imports of raw materials and semi-finished goods will have to be considerably increased. These are anticipated to rise from Eth.$ 31 million in 1955 to Eth.$ 51 million in 1961, or from Eth.$ 132 million in the period 1951-55 to Eth.$ 219 in the next five years. The share of these goods in total imports will then be about 23%. Cotton imports in particular will rise from 2 900 tons in 1955 to about 4 500 tons in 1961, and semi-finished metal goods from Eth.$ 1 million to Eth.$ 4 million. With the expansion of transport, import of crude oil and its products is expected to rise by at least 50% in the planned period, i.e. from Eth.$ 16 million to about Eth.$ 24 million, while the import of other raw materials such as chemicals, paper, etc., will also increase.

No great increase is expected in the import of consumption goods because the demand will be increasingly satisfied by the considerable expansion in the country's industrial production. Local production of foodstuffs, cotton textiles, leather, foot-wear and timber is expected to increase hence imports of non-durable consumption goods may be expected to fall from Eth.$ 76 million in 1955 to Eth.$ 70 million in 1957 and to Eth.$ 63 million in 1961.

It is expected that the import of durable consumption goods, excluding private cars, will be 17% greater in 1961 than in 1955 and will reach Eth.$ 14.5 million as against Eth.$ 12.4 million. This is a continuation of a trend discernible in recent years.

Imports of private motor cars should be kept at the 1955 level of about Eth.$ 7.6 million which would enable the purchase of about 1 400 new cars a year together with the necessary tyres and spare parts.

Balance of Payments

Although the balance of payments has shown regular surpluses during the last five years, efforts should be made do diminish potential deficits. Amongst the most significant features of the country's balance of payments are the following. A trade deficit with Asia and Europe, and a surplus with the Middle East countries and the United States; a constant increase of payments for transport, insurance and similar services, and an increasing transfer abroad of investment income. These factors have already diminished the favourable balance of trade in the last few years.

Balance of Payments

Million Eth.$

	1951	1955	1951-55	1957	1961	1957-61
Export	124.8	170.2	754.6	190.0	233.0	1 049.0
Import	86.6	146.4	592.1	179.0	225.0	994.0
I.Balance	+38.2	+23.8	+162.5	+11.0	+8.0	+55.0
Other Services	-24.1	-29.0	-110.5	-31.0	-31.0	-171.0
II.Balance	+14.1	-5.2	+52.0	-20.0	-29.0	-116.0
Capital Movement . . .	-0.8	+7.3	+26.1	+6.0	+14.0	+54.9
III.Balance	+13.3	+2.1	+78.1	-14.0	-15.0	-61.1
Official Financing						
Foreign Loans	+5.3	+2.1	+18.5	+21.0	+29.0	+130.0
Reparations	-	-	-	+6.0	+2.3	+41.0
Foreign Aid	-	+2.1	+4.4	+1.4	+4.0	+13.0
Contractual Repayments	-3.7	-0.1	-8.8	-3.5	-3.5	-17.5
Errors and Omissions .	+0.4	+7.2	+9.0	-	-	-
IV.Balance of Payments	+15.3	+13.4	+101.2	+10.9	+16.8	+105.4

It is estimated that in the next five years service and transfer payments will exceed the trade surplus, thus producing an overall trade deficit. If the expected increase in imports from Europe and Asia is not balanced by exports and if the present trade surplus with Middle East countries and United States worsened, the overall balance of payments would be adversely affected. Measures must therefore be taken to safeguard the balance of payments which is an important factor in maintaining the favourable economic climate needed for attracting private capital and for negotiating foreign loans. Foreign loans and aid and reparations from Italy will alleviate this problem. An average surplus of about Eth.$ 20 million a year would be obtained in the next five years, if the estimated foreign aid and loans of Eth.$ 143 million, reparations of Eth.$ 41 million and foreign private capital investments of a further Eth.$ 55 million are realised. Such a balance of payments would insure the necessary financial stability for economic development.

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PART III

DEVELOPMENT PROGRAMMES

Chapter 10

AGRICULTURE

Introduction

Ethiopia's agricultural potential is large. Being a predominantly highland country the combination of tropical and mountainous climate offers favourable conditions to agricultural production. There are moreover vast areas of agricultural land which afford ample reserves for future expansion. The country's numerous livestock also represent a valuable source of wealth. Full use, however, has not been made of these favourable conditions, and yields do not correspond to the productive capacity of agriculture.

Only about 7.5 million hectares, out of some 55 million of agricultural land, are at present cultivated; the rest are pastures. Moreover a part of the cultivated land lies fallow:

Estimate of Cultivable Surfaces in 1954

	Thousand ha
Arable Land	5 760
Fallow Land	1 237
Orchards (including Coffee) and Vineyards	503
TOTAL	7 500

Of the sown surfaces the largest share, about 78% is under cereals, 7.8% produce crops for industry, 7% comprise coffee plantations, 4.5% are under pulses and the remaining 2.7% produce vegetables, fruits, spices and aromatic plants. Neither the implements in common use nor the agricultural techniques in use are up-to-date. Crop yields are therefore low and the average quality of agricultural products on the whole unsatisfactory.

Productivity in animal husbandry is also not in keeping with practical possibilities. Ethiopia stands well ahead of many African and all European countries in the number of livestock it possesses.

Estimate of Livestock in 1954

	Million Heads
Cattle	21.8
Sheep	20.5
Goats	15.3
Hogs	0.01
Horses	1.1
Donkeys	3.3
Mules	1.1
Camels	0.81
Poultry	32.5

The contribution of these multitudes of livestock to the economy does not, however, correspond to their numbers, the gross product of animal husbandry being valued only at about Eth.$ 284 million in 1954.

The overall picture is therefore one of low income from agriculture. The standard of living of the agricultural population remains at a low level, limiting its consumption mainly to its own products and narrowing the market for industrial products.

Gross and Net Product in Agriculture in 1954

	Million Eth.$
Gross Product in Agriculture	1 294
Crop Production	715
Livestock Production	284
Home Processing	233
Earnings Outside Agriculture	62
Depreciation	17
Net Product in Agriculture	1 277

Income per household amounts to about Eth.$ 300, or about Eth.$ 75 per head of the agricultural population. This low income prevents the agricultural population from undertaking the investments necessary for improving agricultural production. The underdeveloped state of industry, transport and the market also limit the opportunities for trade in agricultural products, thus restricting the quantity of marketed produce and the purchasing power of the agricultural population.

Main Targets

The object of agricultural policy in the five-year period is consistant with the two principal objectives of the Plan. Firstly, to create the basis for a more dynamic long-term development of agriculture, and, secondly, to take measures that would achieve during the planned period a sizable increase in agricultural production and particularly in marketable crops and raw materials for industry. With this in view and taking into account production possibilities in agriculture, efforts must be concentrated on the following tasks.

(1) Measures should be taken to improve labour productivity, the yield per hectare, as well as the quality of crops by introducing more efficient implements and tools for ploughing, sowing, cultivation and harvesting of crops, and at the same time to adopt gradually a more rational method of animal husbandry which would increase productivity per head of livestock and raise the quality of livestock products. In co-ordination with the above steps should also be taken to improve the household economy and to introduce better storage of marketable agricultural products.

(2) Extensive settlement should be promoted on unoccupied land suitable for agricultural production, amounting to some 40 000 hectares, thereby ensuring a considerable increase in the products available for domestic and foreign markets. Pioneer families should be actively encouraged with technical and financial assistance. A number of large modern farms should also be organised as an essential step towards the production of more efficient production.

(3) Measures should be taken within the next five years to increase the output of marketable crops and industrial raw materials. Cotton production should be increased to meet the requirements of an enlarged local textile industry, while coffee, oil-seeds, pulses and cereals should also be produced in greater quantities.

(4) In order to carry out effectively measures for the modernisation and increase of agricultural production, an adequate Extension Service must be created which should operate a network of institutions and have specialists and skilled agricultural agents all over the country. The service should work in co-operation with existing scientific and research bodies. In order to provide the necessary skilled and expert support for the agricultural services it is necessary to extend existing training centres and make extensive provisions for practical training of personnel.

To fulfill the above tasks the necessary financial requirements should be secured. A part should come from the government in the form of investments and in an increase of the budget of the Ministry of Agriculture. The Government should grant a larger budget to the Ministry of Agriculture and also pursue an active economic policy that stimulates greater private investment in agriculture, and extend a larger volume of bank credit.

Introduction of Modern Tools and Implements

The first essential for promoting better production is the introduction of more efficient implements and agricultural methods. The most important implement which should come gradually into general use is an efficient iron plough. It is estimated that such a plough would last for 15 or more years, and would have several advantages. It would till between 15 and 20 hectares a year, or two to three times as much as the wooden plough now in general use. It could be used on virgin land which is difficult to work with a wooden plough. It would enable two out of every three pairs of oxen to be dispensed with and in their place more productive cattle to be kept. The more efficient plough could reclaim a larger soil area. Finally, by retaining a greater degree of moisture in the soil it would improve crop yields. The harrow and the roller should also be popularised, particularly for use in the "small rains" and at the beginning of the "big rains". These tools are quite simple, made of wood with a few iron parts and could easily be assembled by the farmer himself. With this aid he would be able to prepare the soil for sowing and cover the seed more efficiently than at present, thus assuring better and more rapid germination. Improved sickles and scythes should also be introduced for reaping cereals. The scythe is not difficult to use and presents such obvious advantages over the present method of reaping that it would be adopted very soon after being demonstrated. It would enable the farmer to cut grass for hay in sufficient quantities, enabling him to secure a supply of fodder throughout the year. Wooden rakes and hay-forks, which could be made by every farmer, are also to be recommended for harvesting and preparing hay. To improve cultivation it is also necessary to spread the use of various kinds of hoes.

Threshing machines should gradually be brought into use for large scale production of cereals, oilseeds and pulses. The threshing-machine would reduce the losses which result from cattle treading and ensure cleaner and better quality wheat. Since they are economical, small hand-threshers or threshing machines swivelled by cattle should at first be introduced. Winnowers and selectors should be gradually introduced in order to secure better seeds for sowing and thus improve the quality of production for consumption and the market. It should be possible to produce most parts of the threshing machines and windmills in the country, which could then be assembled in local workshops. At first only the richer producers would be able to afford these machines, but they could hire them out and later, when their usefulness became apparent, the smaller producers would co-operate to purchase machinery for themselves.

The introduction of teamed wagons for farm transport is also needed. With the introduction of the iron plough and other modern implements the cultivated area would be extended and output would be increased, thus rendering it difficult to continue the use of pack-animals. The entire wagon, except for its iron axle, could be produced in local workshops. Driven by a pair of oxen, it could serve an estate of 25 to 30 hectares.

Promotion of Crop Production

Improved seeds play a significant role in increasing crop yields and improving the quality of products. Steps should therefore be taken to improve and preserve the quality of seeds. High quality seeds yielding good crops are to be found in many parts of the country and should be selected for sowing and transplantation. The farmers should be encouraged to put aside and clean the best seeds; there should also be a nation-wide organisation concerned with the systematic improvement of seeds and the coordination of services at present afforded by a number of separate organisations. Experimental institutions should begin by undertaking research in various parts of the country for the best existing varieties. These seeds should then be reproduced in sufficient quantities and distributed to the farmers. The reproduction of seeds could be carried out on larger farms either on state farms under expert management or on those owned by individuals or private companies. The farmers could also receive their seeds from prospective purchasers of their products: factories desirous of obtaining industrial crops, mills buying cereals, wholesalers, etc. A special government organisation should be set up which would materially assist farmers in their efforts to substitute good seeds for the bad.

To fight plant diseases and crop pests it is necessary to instruct producers in combative and preventive measures. In this matter the Government should secure the necessary means, and work hand in hand with local authorities and producer's associations.

The maintenance of soil fertility must also be considered. At present the quality of the soil is preserved by leaving large areas fallow. The ploughing up of new land, particularly where it is accompanied by the cutting of brushwood and the ploughing up of sloped grounds, results in large-scale soil erosion, many agricultural areas being totally lost. Erosion is enhanced by the lack of humus in the soil. Measures to combat erosion and to maintain soil fertility are therefore both urgent and indispensable. Soil fertility is most successfully maintained by means of regular use of manure which returns to the soil nutrition taken from it by the crops. The preparation and use of manure is not at present wide-spread and it is therefore indispensable to instruct producers in this matter.

Oil seeds and pulses are important export crops which require not only better methods of cultivation, but improved seed selection so as to obtain higher yields of oil and easier sales on the world market. The extension of cultivation is needed and better varieties of groundnuts and sesame should be also introduced. In the case of pulses the mixture of different varieties resulting in poor qualities makes it difficult to obtain high prices and constitutes a great obstacle to large-scale export. Better seeds should be introduced which the producers should be encouraged to cultivate, store and market separately. Trade should moreover be organised so as to prevent the mixing of different varieties. Investigations should be carried out to determine the suitability of seeds for various regions and distribution of them carried out with that in view. Selected seeds should be reproduced and distributed to producers with instructions as to their cultivation. The producers should at the same time be assured that the crop will be purchased by those supplying them with seeds. Such measures would raise the yield per unit of land, improve the quality and ensure more favourable prices which would in turn act as an incentive for the expansion of the area under cultivation and the quantity exported.

Cotton, sisal and false banana are all grown in Ethiopia though not in sufficient quantities to meet the demand of the still underdeveloped textile industry. This is particularly true of cotton which is almost entirely imported.

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ETHIOPIA.
Five year development plan, 1957-1961.
Addis Ababa, 1959. 181 p.

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The quality of cotton and other fibres should be improved and their output expanded as rapidly as possible to meet the requirements of large-scale and cottage industry. It must be kept in view that the home textile industry will expand considerably during the planned period. Experience has shown which regions are most suitable for the different varieties of cotton and seeds have already been distributed to producers in certain areas. Two centres have been established for the improvement and extension of cultivation but in view of the great importance of cotton still greater efforts should be made to extent production and to improve the method of cultivation in order to obtain higher yields and better quality. In order to achieve these objectives a special agency should be created which should concern itself with the extension and promotion of cotton growing and with organisation of production, preparation and marketing of cotton. This body would also control the selection and distribution of seeds.

Besides cotton and the other fibres now being grown, new fibres should be introduced, expecially flax and hemp. Experiments should be undertaken with different kinds of seeds as well as with various agro-technical methods to ascertain the best means of growing flax and hemp in particular regions. The organisation dealing with cotton promotion might also cover these new fibres.

Coffee has for a very long time been cultivated in many parts of the country and still is the only plant grown almost exclusively for the market. Since the war coffee export has been constantly increasing and some attempts have been made to introduce modern methods of planting and picking. Owing to the inadequate methods of production, processing and marketing, which still prevail, the country's stable product cannot command the high price it deserves. Natural conditions favour the cultivation of coffee of excellent quality over large areas of the country. Considering the importance of coffee for the economy, special attention must be given to improving production at every stage. Modern methods of cultivation, harvesting and processing must be introduced on the plantations and more efficient methods of marketing and export devised. In selected coffee growing regions producers should be helped by demonstrations and induced by premiums to introduce better varieties of coffee, to thin out overdense plantations, to renew forests which have grown wild and to limit shading to the needs of the coffee trees. No further forests should be cleared to make way for new plantations which should receive credits only when planted on unafforested land. Deafforestation not only wastes public property but also leads to soil erosion and consequent evils. The dry method of cleaning coffee greatly reduces its quality and price. It is therefore necessary to introduce the wet method as quickly as possible, though transport difficulties will make it impossible to do this at once in all regions. Where the rapid introduction of the wet method is in the near future impracticable, processing should be improved. Producers should be taught to harvest coffee at the right time of the year and not to mix overripe or spoiled beans with the good ones. Credits should be granted to producers who establish plantations with seedlings from nurseries and use modern methods, acting according to the instructions from experts. The producers of better quality coffee should be able to benefit from credit and tax concessions and from differentiated export tariffs. It is essential to organise a field service for the instruction of coffee producers. To run this service, personnel should be trained as rapidly as possible at home and abroad. These measures should be undertaken according to the Plan and in a co-ordinated manner from region to region, developments in each region depending on the funds and staff available.

Full attention should be paid to the growing of fruit, the more so as natural conditions are very favourable, particularly in tropical and subtropical areas. An extension of fruit cultivation would improve the diet of the population as well as assuring greater earnings to the producers. Steps should therefore be taken to begin large scale cultivation during the planned period. Fruit nurseries should be established and fruit cultivation fostered by campaigns in primary schools and other institutions. Trees could be planted in small orchards, court-yards and along roads in the vicinity of settlements. This could be a beginning for large-scale fruit cultivation, which might later become a very profitable branch of the economy. The raising of fruit plantations should be encouraged by granting credits, especially good quality fruits for consumption in towns and eventually for export to neighbouring countries.

Viticulture is in its infancy. Grape cultivation should therefore be expanded together with fruit nurseries so as to satiyf domestic requirements.

Promotion of Animal Husbandry

Despite a considerable increase of exports of cattle and meat in recent years, Ethiopia's numerous livestock is insufficiently utilised. In this regard the two basic problems, both closely connected, are the gradual eradication of infectious and parasitic diseases on the one hand, and the development of the market and exports on the other. Measures to improve the productive qualities of the country's livestock could bear fruit only if these two problems are successfully solved. Since improvements in productivity will necessarily take a long time there should be no delay before action is taken. Some progress has been made in the prevention of cattle diseases such as rinderpest and contagious pleuro-pneumonia though preventive measures are not yet applied in all regions. Further and more extensive measures should now be undertaken as part of the Plan. This would reduce losses to cattle-breeders and to the national economy and enable an increase in the export of cattle and cattle products to foreign markets.

Veterinary services must be extended and reinforced by the rapid training of qualified technicians and assistants as well as by the employment of experts from abroad, where Ethiopian experts are not available. Vaccines and medicines should be obtained either locally or from abroad and a preventive service organised to enable increased exports of cattle in accordance with international veterinary regulations. Available means should not be thinly spread over wide areas but mainly concentrated in regions most available for the raising and export of cattle. To ensure slaughter house products of adequate quality it is necessary to organise veterinary stations at slaughter houses and canning factories. Plants should be set up to improve the processing of hides and skins for home use and export.

In starting to utilise the country's livestock resources it is necessary above all to take advantage of favourable natural conditions which do not require special zootechnical knowledge or considerable investment. The following measures should be undertaken:

(1) There is need for a more rational use of pastures which are essential for successful cattle breeding. Pastures should be used rationally to avoid over-grazing and the treading of grass while it is too moist or too young. There should be wide-spread cleaning of bushes, stones, and poisonous herbs, etc.

(2) The links between farming and livestock breeding should be strengthened by the production of fodder on arable land. This would ensure adequate forage during the dry season when cattle would otherwise be on extreme short commons and would be much less productive. An increase in forage would also increase manure, thus raising the fertility of arable land. Improvements would thereby be achieved in both crop and livestock production.

(3) Existing areas of grass land should be better utilised, the grass being out for the preparation of hay and silage for the long dry season. This would considerably improve the feeding of livestock and raise the productivity of animal husbandry.

(4) Livestock should be given the necessary quantities of salt, the lack of which stunts animals, reduces their fertility and milk yields as well as productivity in general.

(5) Sufficient quantities of clean water should be made available to the livestock. Existing watering-places, too often hot-beds of infection and diseases, should be improved.

(6) There should be greater concentration on the fattening of young cattle. These are of better quality, provide more and better meat and yield a faster turnover of capital than old cattle. The keeping of old cattle, on the other hand, reduces the productivity of pastures by overgrazing.

(7) To improve breeding, there should be compulsory inspection and licensing of bulls in all regions where this is practicable.

To improve the productive quality of livestock a coordinated zootechnical plan is required. This should take into account the ecological and feeding conditions of individual regions which differ considerably. In the neighbourhood of larger towns farmers should concentrate on raising cattle for milk, while in other areas the emphasis should be on rearing multipurpose cattle for milk, meat and work. In the lower, drier areas, there should be concentration mainly on meat producing cattle.

There are very favourable conditions for sheep breeding which should be improved in order to obtain a higher yield of meat and wool. Merinisation should therefore be carried out more extensively than at present by means of artificial insemination. This is the most convenient method of producing wool-bearing sheep without loosing the resistance to disease and adaptability to existing conditions of the native breed. The crossing of domestic sheep with caracul rams should also be intensified so as to produce a domestic breed of caracul sheep which would be very useful for their fur.

Goat breeding is fairly widespread and it should become possible to make more economic use of these animals.

The breeding of domestic horses should have the objective of increasing weight, height and strength so as to meet the various requirements of the country.

Poultry keeping, mainly of chickens, is already fairly extensively established, but better selection and breeding would improve productivity both of eggs and meat.

Apiculture is already widespread, but attention should be paid to the introduction of better bee-hives with movable honeycombs. This would increase the yield and improve the quality of both honey and wax.

To achieve the **above mentioned** improvements it will be necessary to introduce not only better forage and more efficient protection of livestock, but also better male breeders since through them the most rapid improvements can be obtained. It is therefore proposed to establish within the planned period four selecting stations for the rearing of cattle-breeders, three sheep stations for merinisation, and a stud farm for horses and donkeys. These establishments would in due course supply breeders to stations all over the country. Breeding and selection of animals and fowls should also be carried out at agricultural schools, agricultural improvement centres and large farms.

The production of hides and skins plays an important part in the country's agriculture. They are not only exported but are also widely used in rural households. It is therefore of considerable importance to maintain these commodities in good condition. At present much waste is caused by damage resulting from parasites, the branding of cattle and the bad method of skinning. Quality is also often lowered by improperly drying skins in the sun and on the ground. Veterinary services should be strengthened to fight infectious and parasitic diseases more efficiently, butchers and flayers should be instructed in better methods and more efficient ways of drying and conserving hides and skins should be widely applied. This would improve the quality and increase the value of hides and skins. It is moreover important that they should be taken as soon as possible from producers. For this purpose a net-work of mobile and fixed stations should be set up for buying and collecting hides and skins and subsequently processing and marketing them.

Improvements in the Household Economy

Measures to achieve improvements in production should be linked with efforts to introduce useful changes in the rural household economy. This will raise the standard of living of the rural population and give an impetus to increased production in general.

The most important problem to be solved is that of water supply to rural settlements. Existing sources should be overhhauled and new wells dug. This work could most successfully be carried out with assistance and support from local authorities.

The milling of flour should be substituted for the present household method using pestle and mortar. Hand mills and grindstones, which are both simple and cheap to make, should be popularised and so should water-mills and mills driven by animals. There are widespread possibilities for these installations which are already in use in some areas and require only small investment.

Better equipment, at first hand-presses, would be of considerable value in raising the amount of oil extracted from oil seeds and might achieve a 25% improved yields over present processing practices in rural households.

The modernisation of cottage industry should be based mainly on the production of textiles, the most widespread branch, and should include an extension in the use of the footdistaff and the popularisation of a more efficient loom, as well as the instruction of craftsmen in dyeing, knitting and related operations.

Improvements in the domestic processing of agricultural products are of great importance not only for the income of the individual producer, but also for the economy as a whole. Producers should therefore be shown how to make better vessels for processing and storing. With the exception of alcoholic drinks the processing of agricultural products is at present scarcely developed and constitute less than 3% of the total value of agricultural production. The existing methods of processing and preservation are moreover inefficient; the possibilities for marketing or storing over a long period to meet the needs of the producers themselves are therefore greatly reduced. Livestock products are not fully utilised because the method of preservation does not permit the storage of adequate supplies. In addition to butter and refined butter, farmers should be encouraged to make cheese and in particular hard cheese. These products are all easier to transport than milk and are assured of a wider market. They require, however, a better supply of salt and trained workers in the processing of milk. A number of model dairies should be established which might later operate on a cooperative basis. In regions with nomadic populations mobile dairies could be established.

Land Settlement

Special attention should be paid to the settlement of agricultural land not at present used. This would increase the area under cultivation and the volume of production. New settlements would moreover contribute to the modernisation of agrarian techniques and land tenure.

The most suitable areas are unafforested land in the vicinity of rivers where it is possible to introduce irrigation. Deforestation should be avoided as it is liable to result in soil erosion which will have far-reaching harmful consequences. The opening up of new land should be preceded by careful preparation and be based on the organisation of large-scale modern farms producing for the market. In the initial stages of their establishment these farms should be supported by financial and technical aid from the government and long-term credits on favourable terms should be granted to them. The use of heavy agricultural machinery and other tools on a co-operative basis would considerably raise productivity on new settlements. The new farms would have great importance for the promotion of agriculture. They would produce better seeds, seedlings and livestock and would serve as an example to neighbouring producers, demonstrating the importance of more modern tools and implements and better methods of production. It is expected that by 1961 these new farms will cover about 40 000 hectares of cultivable land and that extensive efforts will be made in subsequent years. The establishment of settlers on well-organised large farms will greatly benefit the national economy.

Other measures should also be taken to stimulate the establishment of modern farms. These include a special tax on rents, tax exemption for land reclamation, and the granting of long-term credits for new farms producing for the market.

For the improvement of land tenure it is essential to proceed with the measures already initiated to make private property of land more secure. It is necessary to determine more precisely ownership rights, boundary lines and land values. This would make possible a more correct assessment of taxes and facilitate trading in real estate. Further, the stability of land ownership would make landowners more interested in investments for improving production. Land measurement and classification should therefore be speeded up, and a cheap, rapid and more precise method administered with assistance and control from local authorities. Measurement should begin in regions with the largest areas of cultivated land.

Organisation of the Extension Service

In order to carry out the above proposals for the development of agriculture steps must be taken for the organised training of producers. The organisation of an extension service for training and imparting know-how to producers is therefore an important means of promoting agricultural production.

As the number of available experts is limited and since there are other difficulties, the Extension Service should be started on a small scale. Later, as more experts become available, it could be extended. In order to make best use of the available experts and to acquire experience for organising Extension Service on a large scale it would be advisable to begin operations in a selected number of districts. The Service could be gradually extended to cover new areas where favourable conditions for agricultural development prevail. General economic development, especially improvements in transport, would all the time be extending the area of effective operations.

To make the best use of skilled personnel, avoid duplication and ensure utmost efficiency, the following proposals should be carried out:

(1) All agricultural services, institutions and agencies should gear their programme to the national Plan so as to ensure a balanced overall development.

(2) The Ministry of Agriculture should guide and supervise the entire direction of agriculture and all agricultural services which should operate within the framework of annual plans based upon the Five-Year Plan.

(3) The statistical service should be enlarged so as to gather reliable basic data on yields, production and other factors, a knowledge of which is essential for the promotion of agriculture.

The main task of carrying out composite measures for the improvement of crop and livestock production and for the amelioration of the household economy would fall on agricultural improvement centres which should be set up throughout the country. These centres should include the following:

(1) Agricultural schools where rural youth could obtain a two-year practical education which would train them as semi-skilled personnel for the agricultural services and institutions, as well as for work in agricultural enterprises.

(2) One-year training courses preparing semi-skilled personnel for the agricultural services and offering basic training to housewives.

(3) Workshops to serve local needs and to train rural craftsmen as blacksmiths, wheelwrights, joiners, millers, etc.

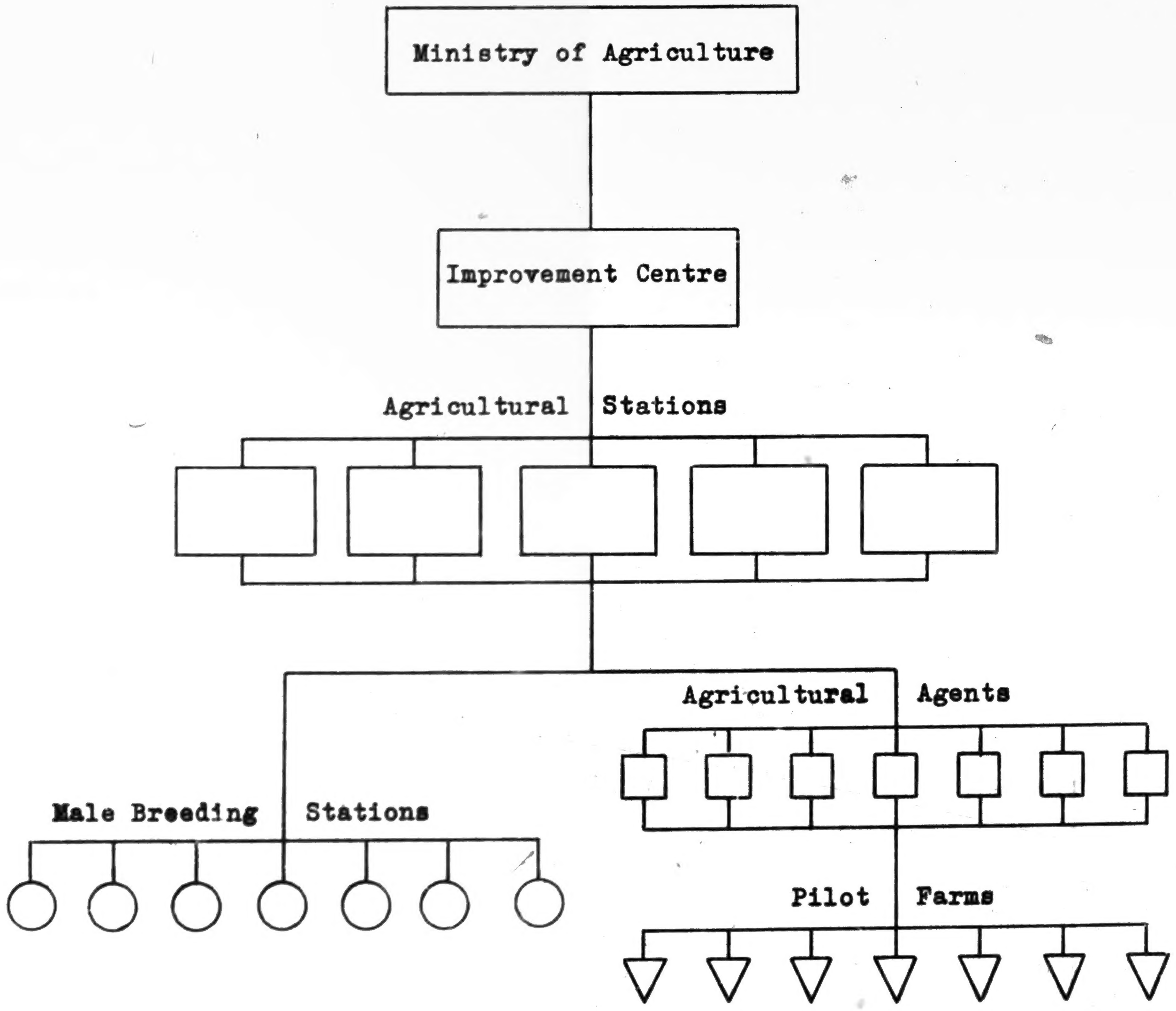
(4) Farms in addition to the production of foodstuffs for the centre should undertake experimental work for the agricultural service by producing selected seeds and breeds, fruit, vine and coffee seedlings, model beehive, etc.

Each agricultural improvement centre should supervise the work of other institutions of the agricultural service in its area. The centre should possess the machines and tools necessary for instruction purposes. Besides providing full-time education it should undertake training courses for semi-skilled personnel as well as for farmers. The general efficiency of the centres would rise as the agricultural service develops and the agricultural technicians available grow in number and acquire higher skills. In the course of the planned period at least six such centres should be established, two of them being in operation by 1958.

Within the area allotted to each centre several agricultural stations should be established. These stations would be largely autonomous but under the control of the centre in technical matters. It would be their task to test implements and methods of production to be propagated by the agricultural service in their area, to operate a nursery, a livestock breeding station of regional specialisation, model beehives and a seed selector station. They should also have threshing-machine and other equipment to serve neighbouring farmers. The stations would serve as demonstration grounds where producers could convince themselves of the usefulness of improved implements and better methods of production. They would further undertake practical courses for the benefit of farmers. At least 30 such stations should be established in the period 1957-61.

Under each agricultural station a necessary number of livestock breeding stations should be established which would operate as independent enterprises though under the technical control of the agricultural station. Breeding stations should possess male breeders of all types of livestock bred in their region, land for production of fodder and facilities for the selection and cleaning of seeds. They would also demonstrate to the neighbourhood the use of better tools and implements. It is expected that at least 230 such stations should be established in the planned period.

An adequate network of local agricultural agents are required. They will be of two kinds: one for the improvement of agricultural production and the other for household work. They should select a number of household farms and give instruction in modern implements and methods of work and in carrying out of household improvements. Improved methods applied by these farms would thus serve as example to neighbouring farmers. To ensure the necessary influences on the farmers, the area of the country allocated to each agent must not be too large. The agricultural agent must be fully acquainted with the new tools, implements and machines as well as with agricultural practice. The agents for the household work must also have adequate qualifications. Practical courses will have to be instituted for their training.



Extension Service Scheme

Ministry of Agriculture
Improvement Centre
Agricultural Stations
Agricultural Agents
Male Breeding Stations
Pilot Farms

To achieve full results the above proposals should not be implemented piece-meal but together with other measures, including the establishment of breeding, stud and agricultural stations, extension of water supply, afforestation, construction of water-mills, training of rural craftsmen, establishment of veterinary and plant protection services, construction of rural roads, improvement of health, opening of new schools, etc. To accomplish so complex a programme it is necessary to work out comprehensive development programmes for each region, thereby gearing all activities to an overall plan.

Elementary schools should play an important role in the instruction of future farmers, spreading a knowledge of better methods of work and popularising new products such as vegetables and fruits. The school syllabus should therefore include agriculture and household and cottage industry, while school gardens and nurseries should acquaint pupils with modern methods and better implements and tools, as well as with necessary workshops for cottage industry. The larger schools should have their own agricultural instructors. In order to train the required personnel for this work it is necessary to proceed intensively with the instruction of suitable teachers. Schools will also have to be supplied with the necessary implements and tools and should possess adequate land and seeds. These requirements will have to be considered in the budget allocation of the Ministry of Agriculture which make itself responsible for giving technical assistance to teachers of agriculture in elementary schools.

A series of laws and regulations will have to be enacted in order to promote agricultural development. These regulations, some of which will apply to the country at large, others to particular areas, should be gradually introduced and, when necessary, should cover the following points:

- Organisation of the agricultural service and its constituent bodies;
- Establishment and operation of an agency for the promotion of cotton production;
- Conditions for the granting of various subsidies;
- Tax concessions, and conditions under which they are granted;
- Quality of seeds which would be given to farmers, conditions for their distribution and means of promoting seed production;
- Selection of breeders and compulsory annual examinations where this is practicable;
- Protection of livestock and extension of veterinary services;
- Protection of plants and operation of plant services;
- Control of the quality of exports and methods of standardisation;
- Speeding up the measurement of land and in this connection defining the obligations and responsibilities of the central and local authorities.

The Development of Agricultural Research Services

A number of well-staffed and fully equiped scientific institutions should be established to discover and test the best methods to be used in agricultural development. Attention should be concentrated at first on experimental work in order to obtain the necessary data for the agricultural services. A network of institutions should be established bearing in mind climatic and soil conditions so as to make regional experiments possible. For this purpose the full functioning of the Agricultural College at Harar should be realised and research institutions connected with it established. The College and the other research institutions besides conducting their own research should supervise and assist experimental work in agricultural schools, centres and stations, all of which should have experimental fields at their disposal.

These research institutions should be primarily concerned with the following tasks:

(1) Domestic and foreign plants cultivated in the country should be collected so as to ascertain the varieties most suitable for the different regions. During the planned period attention should be focused on fibres and seeds so as to obtain the most suitable varieties of cotton, flax, hemp, wheat, maize, barley, ground-nuts, sesame, rapeseed, lentils, beans and peas, as well as the best cultivated and wild legumes for fodder. Work on the selection and cleaning of teff, sorghum, barley, noog, chickpeas and horse-beans should also be started. The Ministry of Agriculture acting on the advice of the research institutions should organise or assist in the reproduction and distribution of selected seeds.

(2) Research should be carried out on the best methods of cultivating the principal crops, methods of sowing, spacing time and depth of ploughing, etc. In this respect care should be taken to obtain the most favourable methods of converting swards into arable fields, making allowance for the need to prevent soil erosion. Full attention should also be paid to ascertaining the most suitable methods for fighting erosion.

(3) Regional experiments should be undertaken to determine the suitability of different kinds of fruits, particularly tropical varieties.

(4) Research should be carried out to ascertain the most suitable method and time for mowing and drying hay in order to prepare fodder for the dry season and to find the best methods for ensiling green grasses.

(5) Investigations should be undertaken to seek the possibilities of improving domestic variety of livestock by crossing with suitable foreign species, bearing in mind the needs of the different regions in raising livestock for milk, meat, work, wool, etc. A start should also be made in determining the most suitable type of domestic livestock, selecting and improving their quality and organising herds out of which the best males could be selected as breeders.

(6) Investigations should be undertaken to discover the best methods applicable under existing conditions for household processing and storing of agricultural products.

(7) Examination should be carried out of the various types of agricultural and household implements, tools and machines used in the various regions with a view to their improvement.

Research institutions should also begin to study the following problems:

(1) To undertake detailed examination of the culture of each crop and discover crop rotation systems suitable for various regions.

(2) To investigate the best methods of cultivating crops by irrigation. In this respect research should begin in the Awash valley in view of the fact that the Koka project anticipates irrigation. Since water is the main natural limiting factor in the country's agricultural production effort should also be devoted to the study of irrigation possibilities in other suitable regions.

(3) To study the flora and particularly herbs and legumes in order to select suitable varieties for use in crop rotation, for the improvement of pastures and meadows and for fighting soil erosion.

(4) To study the biology of plant diseases and pests in order to find effective methods of fighting them, paying special attention to the methods practised in other countries.

(5) To study existing conditions of land tenure with a view to introducing effective changes where they impede the development of agriculture and of the national economy.

(6) To appraise the application of the various methods of organisation both on large and small farms in order to introduce improvements.

(7) To study the market for agricultural products and its problems with a view to proposing adequate measures of economic policy.

(8) To examine the effect of the Government's economic policy on agricultural production and assist the authorities in devising suitable measures of economic policy for the development of agriculture.

The various research institutions should co-ordinate their activities in order to implement effectively the above mentioned tasks. They should study the problems of their regions and advise the Government. Moreover there should be close co-operation between the research institutions and the agricultural improvement centres of the Extension Service, the one selecting the most suitable seeds and the other producing them for distribution.

All agricultural institutions with the necessary number of experts, such as the College at Harar, agricultural schools, agricultural improvement centres and agricultural stations should operate nurseries for producing selected seeds, stock for rearing, orchards, plantations of coffee and vineyards. Separate nurseries for coffee should also be organised and local nurseries for the production of fruit seedlings should be encouraged by subsidies and technical assistance.

Training of Personnel

In order to expand the activity of the Extension Service as envisaged in the Plan it is necessary to utilise the available experts and technicians more efficiently and to train additional skilled personnel.

Special care should be paid to the training of future skilled personnel who will be the pioneers of their country's agricultural progress. Their training should as much as possible be adapted to the needs of the region, its development and the realisation of the aims laid down by the Plan. Existing teaching plans and practices should be revised and readjusted to the requirements of the services for the promotion of agriculture.

The College at Harar should award general degrees in agriculture and selected number of students should be given the opportunity to specialise on completion of their courses. These experts should in the main be prepared to work in agricultural production and partly in scientific institutions. The College should use its capacity to the full, recruiting students who have finished their secondary school education. At present students should join the Extension Service on completing the agricultural secondary school level, but when the existing shortage of personnel is overcome they should be given the opportunity of continuing their studies at the Agricultural College.

Agricultural secondary schools should operate at full capacity. Each of these schools should organise experimental work and have a well-defined area throughout which it would promote the development of agriculture, thus assisting the accomplishment of the Plan.

The agricultural schools in Jimma and Ambo should be equipped with modern implements and tools, as well as with laboratories and farm land in order to give students practical training and experience. The graduates of these schools would work on large farms as managers of agricultural stations and as officers of the Extension Service.

A veterinary secondary school offering a four-year course and enrolling 40 students annually should be established so as to enable its first students to graduate in 1961. The students should be qualified for independent field work under the supervisions of veterinarians and would mainly be responsible for operating the Veterinary Service until fully-qualified personnel could be trained.

Semi-skilled personnel should be trained in the agricultural improvement centres. They would be qualified for practical work in the field and for carrying out programmes of the Extension Service. They would be mainly concerned with the fostering of improved agricultural methods and the establishment of model farms, and would also be qualified to run breeding and seed selections.

Investments and Operating Expenditure

Accelerated agricultural development cannot be achieved without adequate investment. Most agricultural producers at least in the first phase of development, cannot be expected to possess sufficient resources for productive investments. Their investment will be confined to investments in kind, such as increase in livestock, houses, agricultural buildings, etc., and to some extent the purchase of implements and tools. Owners of large scale farms, on the other hand, may be expected to show greater interest in investments which expand production of marketable crops, particularly coffee. To support such investments the Development Bank should pursue a broader credit policy.

The government, however, will have to finance the greater part of the investments for the promotion of agriculture. These investments should mainly be directed to the formation of the Extension Service, the training of skilled personnel and the organisation of institutions envisaged in this programme. Government funds should also be earmarked for establishing new settlement farms in the vast uncultivated areas. Proposed government investment in agriculture in the period 1957-61 should run at the level of Eth.$ 20.5 million, excluding foreign aid.

Investments in Agriculture in 1957-61

	Million Eth.$
Monetary Investments.	40.3
Budgetary Investments	20.5
Land Settlement	8.7
Development of Extension Service	4.9
Construction of Schools and Training of Personnel	1.2
Cattle Breeding Stations	0.8
Agencies for the Promotion of Coffee and Cotton	0.9
Development of Veterinary Service . . .	2.0
Locust Control	0.4
Agricultural Subsidies	1.6
Private Investments in Large Farms	5.5
Bank Loans	10.0
Foreign Aid	4.3
Rural Investments in Kind	139.0
TOTAL INVESTMENTS IN AGRICULTURE . . .	179.3

As was mentioned in Chapter 6, adequate budgetary provisions should be made to enable the effective promotion of agriculture. This will entail an increase in the budget of the Ministry of Agriculture. A major portion of the increase should be devoted to the Extension Service and other programmes such as veterinary services, promotion of cotton and coffee production, pest and locust control, etc. The employment of skilled instructors in agricultural schools will necessitate increased budgetary expenditure. The popularisation and introduction of better implements and tools will in the initial period require subsidies to producers.

Budgetary Expenditures in Agriculture in 1957-61

(Excluding Investments)

	Million Eth.$
Extension Service	8.4
Agricultural Schools	3.1
Livestock Breeding Stations	1.3
Agencies for the Promotion of Coffee and Cotton	1.5
Veterinary Service	6.0
Locust Control	2.5
Subsidies for Introduction of Better Implements and Tools, etc.	3.0
Central Administration of the Ministry of Agriculture	4.3
TOTAL	30.1

It is evident that the promotion of agriculture requires not only adequate government expenditure but also an active economic policy. There is thus a need for a carefully considered taxation, tariffs and credit policy which would create a favourable climate for agricultural expansion.

Expected Developments

The fruits of agricultural development do not materialise in a relatively short period. The measures embodied in the Plan will be laying a solid foundation for future development and their full effects will be seen after the expiry of the planned period. Nevertheless, certain tangible improvements will be achieved in the next five years. The considerable investments, the organisation of the Extension Service, the setting up of the numerous agricultural institutions, the development of transport, industry and trade and the proposed economic policy should create incentives for a more accelerated development of the whole economy. Increased agricultural production would improve the food supply of the population, enlarge the supply of raw materials for domestic industry, provide increasing surpluses for export, raise the purchasing power of the rural population and hence its standard of living.

The number of experts required for various agricultural services, including the Extension Service, for the central administration, and for new large farms, but excluding the agricultural college and the research institutions, is estimated as follows:

Agricultural Experts (with Faculty Degree)	60 - 80
Agricultural Technicians	400 - 500
Agricultural Semi-skilled Personnel	500 - 600
Craftsmen	400 - 500

During the planned period it is expected to establish about 250 seed selectors, 20 fruit nurseries and 2 300 male breeders of various species of livestock. At least 5 000 000 coffee seedlings should be produced by 1961. An organisation for the expansion and promotion of cotton cultivation should also be created as well as a number of other institutions for the promotion of agriculture.

In addition to the implements, tools and machines employed on the larger farms, the Service for the promotion of agriculture should distribute the following for widespread use:

	Thousand Pieces
Iron Ploughs	20
Teamed Wagons	2
Harrows	25
Threshing Machines	0.3
Winnowers	1.1
Teamed Hoeing Machines	2
Hoes, Scythes, Hayforks, etc.	150

The introduction of these tools, implements and machines, as well as the use of better seeds, methods of cultivation, harvesting and storing of crops, would signify the widespread adoption of modern methods of work in many regions. Taking also into consideration the influence of these and other measures, the following expansion of agriculture might be expected by 1961.

	Index 1961/1954
Cultivated Area about	114
Gross Product in Agriculture about	117
Crop Production	118
Coffee Production	125
Livestock Production	117
Home Processing	113
Net Product in Agriculture	117
Income per Head of Agricultural Population . . .	106

Apart from these short-term results the Plan will have laid the foundations for accelerated development in years subsequent to the planned period. In this connection the following achievements are of special significance.

(1) After 1961 a large number of agricultural experts would be available from the training institutions contemplated in the Plan. It would therefore become possible to meet almost all required needs in expert personnel, except instructors at the College and specialists in research institutions and pilot projects.

(2) The network of agricultural institutions and services which will be established only in a limited number of selected regions by 1961 will cover more than half the country and operate to some extent in all previnces by 1966.

(3) Valuable knowledge, equipment and experience will have been acquired by the research and experimental institutions which will enable them to undertake broader and more serious studies in subsequent years.

(4) The widespread adoption of better implements and tools by the rural population will mean that gradually most farmers will become aware of the benefits of modern agricultural methods. The level of technical education of the entire population will thus be considerably raised.

(5) Gains will be obtained from the decline of livestock diseases as well as from improved varieties of livestock.

As a result of planned promotion of agriculture, an increase of per capita income and production of about 5.5% in the first five years may be expected, while the increase in the following five years should be stepped up to about 11% above the planned period. The proposed measures will thus bring about, even in the first five years, considerable improvements in agriculture, the principal branch of the economy, and will create a sound basis for long-term economic development.

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Chapter 11

FORESTRY

Present Situation

The climate and soil of Ethiopia are very suitable for the growth of forestry which constitutes a great source of potential wealth. Besides supplying fuel, building materials and industrial raw materials, forests fulfil the important function of protecting agricultural and other land from erosion. They favourably influence the weather and humidity, mitigate the harmful influence of winds and protect farmlands and other resources from floods. It is therefore indispensable to deal systematically with the exploitation, regeneration and cultivation of forests and by means of long-term measures to remove or mitigate existing drawbacks, thus laying the foundations for accelerated long-term development. Estimates of the existing forest area in 1954 are given below:

	Thousand ha
Tall Dense Forests	7 400
Sparse Forests	22 990
TOTAL	30 390
Protective Forests in Coffee Regions .	398

The above table shows that forest areas cover a total of 30.4 million hectares, of which about 398 000 hectares are protective forests in coffee regions. Inspite of the extensive potential forest areas the existing area under forests is small compared with total land area. This fact emphasises the need to make greater efforts both in afforestation and in the prevention of forest devastation caused by the cutting or burning of trees in order to reclaim new arable land and pastures.

The contribution which existing and potential forests could make to the economy is reduced by the existence of large unafforested and deforested areas. This moreover affects adversely the stability of agricultural areas in general. In addition, the existing timber industry is to a large extent obsolete, little use being made of its by-products, thus rendering high the cost of timber and timber manufactures. Furthermore the absence of a wood processing and chemical industry hinders the growth of the timber industry. Measures for promoting forests are handicapped by the absence of a forest register, the vagueness of data on forest ownership and the absence of data on existing quantities of woods and their yields. Besides the need for accurate data, there is also a need for forest legislation, as well as for trained Ethiopian personnel.

In many agricultural areas of the country good fuel is so short that the population burns manure. On the other hand extensive forests of good quality in Western Ethiopia are not exploited owing to the lack of transport facilities. In these regions trees are overmature and rotting, while in the vicinity of the main communication lines there are relatively large areas denuded of trees. The inaccessibility of the principal forest areas owing to their remoteness from communications lines and consumption centres narrows the possibility of exploitation to relatively limited quantities and kinds of timber.

Main Targets

In the next five years the tasks of forestry policy should be the following:

(1) To draw up systematic forest inventories;

(2) To speed up afforestation of eroded and denuded soil, and to plant new forests in areas lacking firewood.

(3) To organise a field service for the promotion of forestry, particularly in regions where there is a need for forest protection and afforestation.

(4) To establish institutions for the promotion of forestry. Research should be undertaken to determine the most suitable species of wood for each plantation.

(5) To intensify efforts for the training-education of forestry personnel.

The following measures should be undertaken in order to enable the implementation of the above tasks and make the best use of existing possibilities.

(1) It is necessary to form a special group of experts in order to collect realiable data on the extent, state and quality of forests in general, to estimate the quantity of total wood and its annual increase and to carry out selection and measurement of state forests, thus making possible an inventory of forests which is the first and most essential task. In separating state forests and drawing of boundary lines the needs of individual villages should be taken into account. The urgent need for wood should be satisfied by planning a forest belt in the vicinity of villages.

(2) The network of nurseries for producing forest seedlings should be expanded; since afforestation is one of the most important problems it should be tackled on a mass scale. In addition to regional nurseries and the nurseries attached to the forestry school, a series of local nurseries should be set up with the cooperation of the inhabitants. In planning afforestation it is of particular importance to apply the experience gained with certain species of eucalyptus trees in the neighbourhood of larger towns. Species should be chosen which best suit the requirements of the population for fuel and timber. The needs of the chemical industry based on timber should also be considered. In the afforestation of woodless regions the fastest growing species should be introduced. This must be taken into account when establishing nurseries.

(3) In order to make better use of wood, more incentives should be provided for the reconstruction of the existing timber industry and preparatory work should start for developing the wood processing and chemical industries based on timber. Research should also be undertaken into the quality of various species of timber.

(4) Particular attention should also be paid to forests for special purposes in connection with national parks, forests protecting important projects and communications, to regenerated woods and afforested grounds and the protection of game.

(5) Special attention should also be devoted to the training of forest personnel since they will be the promoters of forest development. It is also necessary to organise courses for accelerated preparation of foresters.

Investment and Operating Expenditure

Public investments should be allotted mainly for afforestation, making inventories of forests and training of forestry personnel. Public investments in the planned period are estimated at Eth.$ 2 877 thousand.

Investments in Forestry in 1957-61

	Thousand Eth.$
Afforestation	1 800
Inventorying of Forests	705
Forestry School	259
Service for Promotion of Forestry . . .	113
TOTAL	2 877

Of the operating expenditure for the proposed institutions and services the greater part is earmarked for the training of personnel, regional forestry offices and for afforestation and protection against soil erosion. The operating budget for the planned period is estimated at Eth.$ 2.2 million.

Budgetary Expenditure in 1957-61
(Excluding Investments)

	Thousand Eth.$
Forestry School and Preparation of Personnel	800
Service for Promotion of Forestry	600
Afforestation and Protection from Erosion	400
Central Administration of the Ministry of Agriculture	350
TOTAL	2 150

Expected Developments

Forestry is a branch of the national economy which cannot produce rapid results. However, on the basis of various measures planned for the promotion of forestry which include the training of personnel, organisation of regional forestry offices in the main forestry areas, extensive measures for afforestation etc., it is expected that favourable conditions for further development of forestry would be obtained in the years subsequent to the planned period. In this regard it is important to bear in mind the fact that expert personnel would be trained in increasing number, making possible the creation of more regional offices for the promotion of forestry. The network of forest institutions and nurseries would gradually be extended, creating possibilities for afforestation. By building up new communication lines new forest areas could be opened up. By the end of the planned period net product in forestry is expected to increase from Eth.$ 3 million in 1957 to Eth.$ 4.6 million in 1961. Indirect and long term benefits from existing and new forests will be of considerable value to the overall economy.

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Chapter 12

MINING

In the chapter outlining the main objectives and lines of development of the Ethiopian economy it was stated in connection with the development of mining that first necessity was to extend and intensify explorations. This is a prerequisite of any extensive development in this branch of the economy. The survey of the future policy and tasks in the field of mining is given separately for existing mines and for so far unexploited areas.

Efforts should be made to secure by an extension of exploration new information about possibilities for the intensification and expansion of mining. This work is particularly important as production has been steadily decreasing since the prewar period. This decrease is a common feature of all mines in Ethiopia as may be observed from the following data on the production of gold and platinum.

Production of Gold and Platinum

Kg.

Year	Kibre Mangist (Adola) Gold	Gold Mines in Eritrea	Yubdo Platinum
1932	...	55.8	230.8
1935	...	134.6	166.4
1936	(500)	158.3	110.5
1944	1 521	5.0	29.3
1946	1 520	106.0	15.0
1950	1 270	34.0	15.0
1951	960	21.0	5.9
1952	790	22.0	1.9
1953	771	42.0	5.7
1954	562	46.0	7.1
1955	585	(60.2)	7.8

The two main tasks to be pursued in the planned period should be intensive exploration of new areas and modernisation of equipment in existing mines.

Existing Mines

Whereas before the Second World War a larger number of mines were exploited, the present exploitation is limited to the gold deposits in Kibre Mangist (Adola), Beni Shangul, Ugaro, Modrizion, Dorfu, Adi Nofas and Kinkinaro-Dukambia, the platinum deposit in Yubdo and the very limited exploitation of salt and sulphur in the Salt Valley in the Dankali Desert (Dallol).

Explorations in the area of existing mines have not been extensively carried out. Generally speaking, mines in Eritrea have been more thoroughly explored, so that exploration should now be intensified in other regions, firstly in Adola and Yubdo. A topographical map of Adola, for which the photomosaic already exists, should be completed and systematic exploratory mining begun. About 2 800 exploratory pits should be distributed over an area of about 2.5 million square metres in Bore Valley and about 2 000 exploratory pits and drills should operate in the area where gold exploitation is in progress - alongside the rivers Awatto and Mormora. In addition to the existing two exploratory groups, three new teams should be formed to complete the exploratory work. A detailed petrographic map should be traced to cover a surface of about 1 600 sq.km. It is planned to map out 600 sq.km. in the planned period, but the progress of these mapping operations is dependent on the availability of sufficient numbers of petrographers.

In order to work out a chemical map of the area it is proposed to set up small chemical laboratories for full scale analyses in the main centres to which samples from individual layers should be sent for spectrographical analysis.

In the Yubdo platinum belt exploration should begin with the taking of measurements to complete the existing topographical map. A detailed map should be worked out for an area of about 50 sq.km. Systematic mining exploration should be accomplished over an area of about 23.5 million square metres. For the period 1957-61, 1 200 pits should be worked over an area of 12 million square metres. Black sand deposits should be explored spectrographically and chemically to discover the extent of chromium and nickel reserves. Drills should be sunk in the area of olivinite (dunite) primary rocks.

Existing gold deposits in Eritrea (Ugaro, Modrizion, Dorfu, Adi Nefas, Kinkinaro-Dukambia) have been more fully explored, particularly that of Ugaro. In order to determine reserves and the volume of possible production, exploration should be undertaken in the above mentioned areas of the gold-bearing deposits.

The area of potassium, magnesium and sodium bromides and iodides, and sulphur and gypsum in the area of the Salt Valley of the Dankali Desert has been exploited to a smaller extent and without any special exploratory works. In order to get a clearer picture of this deposit, however, and to assess possibilities for exploration, exploratory works should be undertaken on a larger scale. This should include drilling and chemical analysis of the abundant salt deposits as well as the study of possible methods of future exploitation.

Production methods in existing mines are in the main obsolete and inefficient. In order to make fuller use of mining resources the Plan provides for the modernisation of equipment.

In Kibre Mangist labour productivity is low as a result of out of date methods of production; manual labour is normally employed for excavation, washing and transport. The existing dredge in Kibre Mangist produces only one-fifth of the total production and, therefore its effect on productivity as a whole is very low. The capacity of the water-supply system, upon which the volume of gold exploitation depends, is very small. Although there have been relatively large capital investments in pipelines, reservoirs, pumping stations, etc. in this area, these installations are not being used owing to the insufficient capacity of the pump. In order to expand gold production it is necessary to modernise and rationalise working methods and extend mechanisation. This will require large quantities of electric power which could be supplied by harnessing the water-falls on the river Mormora. With cheaper power available production could be increased. The pumping station on the river Awatta should be electrified, its capacity expanded and the water supply increased. In this way Bedakessa, Dembi and other valleys might be supplied with water for hydraulic or other methods of excavation. A pumping station should be built on the river Mormora in order to mechanise excavations, to provide sufficient water for washing the gravel and to convey water to Bore Valley where excavations could also proceed by means of a big-capacity dredge, if explorations confirm the possibility of exploitation. If the drilling for water for Bore Valley shows positive results there will be no need for conveying water from Mormora. This would obviate the present system of scattered production with its high and inefficient costs. An increased water supply would make it possible to wash out a larger quantity of goldbearing gravel at less cost, thereby superseding the present expensive method of water supply by trucks. Experimental studies should be undertaken with dry-blowing, ground sluicing, box sluicing or gold panners to discover the best method of extracting gold from the gravel. The planned investments for exploration and modernisation of production in Kibre Mangist are estimated at approximately Eth.$ 3.5 million for the period 1957-61 and Eth.$ 1.3 million for 1962-66. If exploration should prove that sufficient deposits exist, production could be increased by 100%. Such investments would enable a tenfold increase in the profitability of production.

The persistent slowing down of production in Yubdo is not only a consequence of insufficiently explored and secured deposits of platinum-bearing gravel, but also of the poor state of water-supply. If explorations should provide positive results it would become necessary to reconstruct and expand the water supply system. Water would have to be pumped for excavation on high ground. Power for this work could be provided by a reservoir on the river Birbir, which could also be used for excavations and washing of gravel. By geotechnical ground explorations and experimental studies the best method of exploitation, either by using equipment for excavation and concentration of the platinum or concentrating by means of ground of box sluicing could be discovered. The possibility of producing platinum out of relatively rich, not yet exploited lemonite ores should be considered together with that of producing chromium and nickel concentrate. Explorations should therefore be carried out with concentrating-tables, cyclons, heavy liquid separation, etc. It is estimated that investments in exploration and modernisation of production should be about Eth.$ 2.5 million for the planned period and about Eth.$ 0.6 million for 1962-66. With modernisation the present production of concentrates in the platinum group and gold would increase from 10 kg. to 180 kg. a year, and the profit per gramme would be increased by about three times. Installations for amalgamation and cyanisation in other gold mines should be renewed in order to bring production up to the prewar level. A study should be made to extract the copper from mineralised veins in all deposits where copper is found with gold.

The present system of linking government-owned mines to their supervisory body - the Ministry of Finance - has reduced business initiative and flexibility in the commercial and financil management since their operation is wholly dependent upon the budget. In order to enable the government mines to develop properly they should be organised as self-supporting state enterprises.They should therefore receive circulation capital in the form of bank credit, organise proper accounts and the marketing of their products at market prices.Technical control of the mines should be exercised by the Mining Board.

Exploration in New Areas

So far mining exploration has been concerned with a number of minerals. Licenceshave been issued to interested prospectors. It is probable that new deposits of metals and minerals will be discovered and that overall mining production will increase. The government should, however, play a more vigorous role in the exploration of the country's considerable mineral deposits in the period 1957-61, extending the explorations into new areas. Before this can be done the government should gradually work out adequate topographical maps and then organise detailed surveys to draw up a geological map of Ethiopia. General geological survey should be followed by systematic prospecting and mining exploration.

Systematic explorations should first be undertaken in areas where previous prospectors have found indications of mineral wealth and where the work has not yet been completed. There has, for instance, been some scattered exploration of mica at Kakaro and Shebelli in the province of Harar where there is an area of granite rocks, pegmatite veins and other rocks. In this area there are also indications of beryllium, molybdenite, asbestos, vermiculite, galena, monacite, orthoclase and other minerals. The systematic exploration of this area should be undertaken in the planned period in order to establish whether adequate reserves of these minerals exist. The same applies to crystaline schists, magnetic intrusions and alluvials in Wollega where gold, platinum, molibdenum and chromium are to be found, and to the granite, metamorphic rocks and alluvials of the Neghelli-Dilla-Iavello triangle, where there are gold and other metals, as well as the vicinity of Ugaro and Asmara, where gold, copper and other minerals also exist. Production should start wherever exploratory work indicates that economic exploitation would be justified.

Particular attention should be given to the exploration of coal which is greatly needed by industries, especially those concerned with building materials. In certain regions there are outcrops of coal of differing qualities some of which have been exploited. Although there is geological evidence that possibilities of coal mining are very limited, even modest resources should not be ignored in view of the high price of imported coal. The areas of Gondar, Dessie and Mush Valley should be explored in the planned period. The latter area is of particular interest owing to its proximity to the Addis Ababa road. The coal could thus be brought to the capital which is developing as the industrial centre.

The Government should also take into account the areas where domestic or foreign capital could most usefully be invested so as to intensify large-scale exploration. This applies mainly to the exploration of oil, iron and copper ores in Eritrea, as these exploitations require considerable amounts of capital which the government could not provide sufficiently from its own resources.

Investments

Adequate financial means must be secured in order to implement the five-year programme of new exploration and reconstruction of existing mines and to begin the exploration of new deposits where conditions are favourable. Investment funds should come partly from the budget and partly from domestic and foreign capital.

The total investments in mining for the period 1957-61 are estimated as follows:

	Million Eth.$
Yubdo	2.4
Kibre Mangist	3.5
Exploration of New Areas	2.7
Oil Prospecting	24.6
Reserves for New Exploitation	4.4
TOTAL	37.6

The above survey of mining investments shows that a significant part is earmarked for reconstruction and increasing the production of the two largest state mines- Kibre Mangist and Yubdo; considerable amounts are also allocated for new explorations. It must be emphasised that the total amount available for mining exploration will be increased by the amount approved in the budget for the Mining Department.

It is moreover expected that persons or firms who would carry out exploration would also invest some capital in the areas in which they were granted concessions. Agreements already lay down specific amounts to be spent for the exploration of oil in the Ogaden, for all minerals west of Kibre Mangist and for mineral raw materials, except oil in Eritrea.

It is estimated that funds for investment in mining will be made up as follows: Eth.$ 5.6 milllion from the budget, Eth.$ 3 million from bank loans, Eth.$ 2.6 million from foreign loans, Eth.$ 26.4 million from direct private foreign investment, giving a total of Eth.$ 37.6 million.

Personnel

An essential problem in planning the development of mining is the immediate need of training the necessary personnel. The need for unskilled labour in existing mines will diminish because of modernisation and concentration of production; the structure of employed personnel will therefore change in favour of qualified experts and semi-skilled workers, and, to a lesser extent, of highly qualified personnel. In order to raise the skill of present workers practical instruction will have to be provided for workers in enterprises,and a certain number of semi-skilled and skilled workers will have to be sent abroad to acquire experience in mines where capacity dredges and giants are in operation. Two or three mining engineers should also be sent to specialise in such mines. Relatively favourable conditions for training of workers exist in the mines of Kibre Mangist and Yubdo where workers have already acquired a certain knowledge of the existing production process.

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Chapter 13

ELECTRICITY

Present Situation

The shortage of electric power, which has been emphasised in previous chapters, may be illustrated by the fact that the production of electricity by the public power plants amounts to only about 2.5 kWh per head of population. This small output stands in contrast to the vast potential resources of water-power which have scarcely begun to be tapped. The low level of power production has been a factor retarding economic development and industry in particular. The small capacity and consequently the insufficient supply from public electric plants has led some industrial enterprises to build their own power plant. Up to now only industrial enterprises in Addis Ababa and Asmara have been able to use electricity from public power plants, while enterprises in the provinces have been compelled to build their own plants. Both public and industrial power plants used little water power, production coming mainly from thermal power-plants.

The low level of production and the tendency to construct thermal power-plants using imported crude oil and only small quantities of wood have raised production costs with the result that the price of electricity both for industrial and private consumption is relatively high.

There are 37 public power-plants of which 28 use thermal power and only 9 water power; together they have an installed generating capacity of 24 432 kW. In 1955 thermal power-plants produced about 51% of the total, and hydro-electric plants about 49%. Total production increased in the last five years as follows:

Electric Power Production

	Million kWh
1951	35.3
1952	37.8
1953	43.1
1954	45.0
1955	47.2

The steady annual increase in production has not been sufficient to meet the growing requirements, with the result that many industrial enterprises have been obliged to establish their own power plants. There were 55 such installations in 1955, producing about 14.5 million kWh of the total industrial consumption of 19.7 million kWh. The public installations supplied the remaining 5.2 million kWh which was mainly consumed by the smaller industrial enterprises.

The level of production is small compared with available hydro-electric power estimated as follows1) :

	Available Hydro-Electric Power in MW (Average)	Available Energy in GWh
Abbai	2 842	24 900
Awash	147	1 304
Alomata	1	12
Barca	9	77
Mareb-Gasc . . .	65	569
Tecazze-Setit .	577	5 048
Angareb	8	71
Atbara	5	41
Gira-Skinfa . .	3	27
Dinder	5	48
Baro	138	1 211
Ghelo	11	94
Omo	525	4 596
Akobo	5	46
Juba	75	.654
Webbi Shebelli	805	7 045
TOTAL	5 221	45 743

1) Available hydro-electric power constitutes that part of total energy which can be utilised on the basis of existing technical possibilities. These estimates are based on observations and measurements of the rivers and their tributaries, applying the "coeficient of exploitation" method. Available hydro-electric power is expressed in MW (1 MW = 10 000 kW). Available energy is expressed in GWh (1 GWh = 1 million kWh).

The present output of hydro-electric power is only about 0.5% of the total potential.

Future Development

In order to achieve a more rapid increase of power production in the planned period new installations should be constructed and existing plants expanded. The increase in production would supply the needs of the new industrial enterprises to be constructed in the period 1957-61, as well as to a lesser extent the existing mines which will be mechanised, and the urban population. Estimates of the planned output and installed power in the main consumption areas are given in the following tables:

Electric Power Production

GWh

	1955	1957	1961	1966	1976
Public Power Plants	47.2	62.6	110.0	185	432
Addis Ababa-Diredawa-Harar . .	26.4	34.9	61.4	108	279
Other Already Electrified Areas in 12 Provinces . . .	1.5	1.8	2.6	4	7
Asmara-Massawa-Assab	15.0	21.2	34.1	55	110
Other Already Electrified Areas in Eritrea	4.3	4.7	6.6	9	19
Areas of 12 Provinces and Eritrea to be Electrified . . .	-	-	5.3	9	17
Industrial Plants	14.5	...	52.0	...	...
ETHIOPIA TOTAL	61.7	...	162.0	...	...

Installed Power of Public Power Plants

MW

	1955	1957	1961	1966	1976
Addis Ababa-Diredawa-Harar . .	10.3	17.3	49.3	49.5	90.0
Other Already Electrified Areas in 12 Provinces	2.4	2.6	2.6	2.6	3.5
Asmara-Massawa-Assab	9.2	9.2	10.4	15.0	28.0
Other Electrified Areas in Eritrea	2.5	2.5	2.5	3.0	6.0
Areas of 12 Provinces and Eritrea to be Electrified . . .	-	-	2.3	3.0	6.0
ETHIOPIA TOTAL	24.4	31.6	67.1	73.1	133.5

Whereas forecasts for the period 1957-61 are based on the assumed fulfilment of the Plan, the estimates for 1966 and 1976 are tentative, since it is difficult to establish long-term requirements for a country in the first stage of development.

It will be seen that the biggest increase in consumption is envisaged in the Addis Ababa-Diredawa-Harar region, where the largest industrial plants are located and where future development is likely to be most intense. Moreover this area is inhabited by two-thirds of the total urban population and contains the most important administrative centres. The other largest consumption centres are Asmara, Massawa and Assab where many industrial enterprises are established and there is a considerable density of population.

It will not however be possible to meet all requirements by hydro-electric power in the near future, as the building of a nation-wide hydro-electric power system would take too long, besides being extremely costly. It is therefore suggested that small thermal power plants be established in urban centres where the construction of large hydro-electric installations would not be economical even if water supply is available. With the growth of the economy and the general rise of consumption, however, more hydro-electric plants should be constructed. The thermal-power plants would then be used as a reserve or could be moved to other areas.

It will also be necessary to establish transmission lines and a network for distribution of electric current over large consumption areas. Preparatory work should be undertaken during the planned period to link the separate consumption areas into a single network.

Investments

In order to establish or expand power-plants, transmission lines, transformer stations, a distribution network, and to undertake research and planning of future expansion, it is estimated that the investments needed for the 1957-61 are as follows:

Investments in Electricity

	Thousand Eth.$
Extension of Thermal Power-Plants in Addis Ababa	300
Building and Extension of Distribution Network in Addis Ababa . .	1 450
Construction of a Smaller Hydro-electric Power Plant at Jimma . .	80
Construction of Hydro-electric Power Plant at Koka	21 895
Building of Transmission Line Koka-Addis Ababa	2 786
Reconstruction of Transmission Line Koka-Nazareth	115
Building of Transmission Line Koka-Diredawa	7 349
Thermal-electric Power Plant at Alemaya and Transmission Line Diredawa-Harar	1 900
The Extension of Hydro-electric Power Plant of Aba Samuel (Phase I)	450
Construction of Hydro-electric Power Plant Dorfu (Phase III) . . .	900
Construction of Electric Power Plants and Distribution Networks in Larger Administrative Centres and Settlements	1 861
Reconstruction and Replacement of Existing Installations, Studies and Projects	3 634
TOTAL	43 300

By far the most important of these projects both from the point of view of cost and future output is the hydro-electric power-plant at Koka on the river Awash. The projected water reservoir on this river would be the beginning of a highly developed irrigation scheme in that area, i.e. the water would serve both for generation of electricity and irrigation purposes.

In order to make available the electricity produced at Koka over a wide area it will be necessary to construct two transmission lines which would carry 132 kW each. One transmission line, which would be 82 km. long, would supply Addis Ababa, the largest consumption area in the country. It would enable the capital's electricity requirements to be met and would require the establishment of a transformer station in Addis Ababa. The other transmission line, some 355 km. long, would supply Diredawa, the second most important centre of consumption which is expected to consume about 10 million kWh in 1961, the expected consumption being so large that costs of transmission should be considerably less than the cost of fuel in existing thermal power plants.

In order to meet fully the needs of the Diredawa-Harar region it will be necessary to construct a new 2 000 kW power plant on lake Alemaya. It should be possible to link this plant by transmission lines of 45 kV with power-plants and networks in Diredawa and Harar, thus creating a grid over the whole area.

Power from Koka should also be supplied to the large consumption centre of Nazareth by reconstructing the existing transmission line and increasing its load from 15 to 45 kV.

In view of the considerable shortage of power supply in Addis Ababa, which has made itself felt in recent years, it is essential to enlarge the city's existing thermal power plant by a new turbo-aggregate of 5 000 kW. At the same time further extension of the existing reservoir for hydro-electric power plant at Abba Samuel on the river Akaki is envisaged as well as the reconstruction of existing installations. The last phase in the construction of the hydro-electric plant at Dorfu III is expected to be completed in 1959. The electric-power system from Sciaca to Dorfu will thus be linked. Water used for these installations could also serve for irrigation purposes.

It is proposed that small power-plants run on crude oil should be built for rural administrative centres and other towns. These would be less costly than the construction of hydro-electric power plants. It is estimated that there are about 150 000 inhabitants in some 30 such settlements and that the installed power of these power-plants would amount to approximately 2 250 kW or 5.3 million kWh a year.1)

In order to make full use of existing hydro-electric and thermal power plants which have been used for many years and are in bad condition it is necessary to undertake gradual reconstruction or replacement of all worn equipment. Funds have been set aside for this purpose.

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1) A survey of these plants, the investment and the number of consumers they could supply may be found in the Appendix.

Since requirements will increase with the general economic development of the country a relatively large amount of investment should be allocated for preliminary studies. These include geodetical and geological research and exploration of the main potential water resources, including the river Abbai, the Awash and the lake Tana region. In areas where elementary data are already available plans should be drawn up for projects such as the hydro-electric power plant at Abba Samuel II, the hydro-electric power plant of Akaki II and other smaller local hydro-electric and thermal power-plants. By the end of the planned period it will be necessary to prepare plans for the utilisation of the middle Awash region. Preliminary studies of the technical and economic aspects of hydro-electric power should be made.

The largest position of funds, Eth.$ 32 million, should be procured from reparations, while the remainder would be invested by existing organisations engaged in producing electricity, municipalities and private enterpreneurs.

Expected Developments

The new power projects will be of considerable importance for the economy. Besides supplying light to large sections of the urban population they will greatly benefit industry.

It is estimated that electricity production will almost double in the planned period from 62.6 million kWh in 1957 to 110 million in 1961. Further production estimates for 1966 and 1976 are 185 million kWh and 432 million kWh.

It must be noted, however, that these figures are gross estimates, that losses occur during transmission, and that some electricity is consumed by the power-plants themselves. It is therefore expected that the following quantities of electric power will be available for consumption:

Estimated Consumption of Electric Power

	Million kWh
1957	51
1961	90
1966	151
1976	352

The greatest part of the foreseen increase in production for the planned period should be supplied from the hydro-electric power plant at Koka on the river Awash. This project will be of the utmost importance to the economy since about 90% of its production will supply the new industrial enterprises planned for the Addis Ababa-Diredawa region. The construction of the Koka installations is thus a prerequisite of planned industrial development for the period 1957-61, the more so as the cost of production according to present estimates will be only about 3 cents per kWh-three times cheaper than the present costs of electricity produced by public network.

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Chapter 14

MANUFACTURING INDUSTRY

Present Situation

It may be observed that industrial development was more rapid in the period 1950-55 than in previous years. During this period, however, full advantage was not taken of the abundant supplies of raw materials and labour to build up industry. The main impediments to a more active industrial development were lack of electric power and an adequate road network, shortage of domestic capital, the narrowness and inflexibility of the domestic market and the lack of entrepreneurial initiative and ability.

Industrial development has been seriously handicapped by the low level of electric-power supply produced by public installations. This has forced some larger industrial enterprises to construct their own power plants which involve large additional capital investments and higher production costs, thus placing domestic industrial goods in an inferiour position.

The inadequacy of the road network over vast areas has also been an important factor preventing a more rapid development of industry. It was not therefore possible fully to utilise the country's abundant agricultural resources or to transport finished industrial goods to all centres of consumption or export. Industrial development was thus mainly directed towards the construction of small factories in a few large consumption centres. The existence of manufacturing industries on such a limited scale could not provide sufficient incentives for the expansion of agricultural production and particularly of raw materials. The textile industry, for example, had to import the bulk of its raw materials from abroad. The home industry, being unable to meet domestic demand, industrial goods had to be largely imported from abroad.

Only a few of the new industrial enterprise, mainly constructed after 1953, are sufficiently large and well equipped to meet to some extent the needs of the domestic market. These new enterprises include the cotton yarn factories in Addis Ababa, Diredawa and Asmara, the Addis Ababa cord and sack factory, the slaughter-houses and meat-processing plants in Asmara, the Addis Ababa slaughter-house, the Wonji sugar plant and the Addis Ababa leather and foot-wear factory.

The character and direction of recent industrial development may be illustrated by a comparison of the number of enterprises in 1952 and 1954.

Enterprises of Manufacturing Industry

	1952	1954
12 Provinces	114	166
Textiles	5	6
Flour Mills	6	6
Oil and Soap	9	9
Sugar	5	5
Beverages	13	15
Tobacco	1	1
Leather and Footwear	4	7
Timber	12	14
Cement and Bricks	3	4
Printing Works	5	5
Other Industries	4	3
Coffee Cleaning Plant	33	64
Other Cleaning Plants	18	31
Eritrea	...	83
ETHIOPIA TOTAL	...	249

During 1952-54, 52 new enterprises were established in Ethiopia (excluding Eritrea), of which 44 were coffee cleaning plants and cleaning plants for other cereals. The most significant industrial projects constructed were a sugar plant at Wonji, a new textile factory in Addis Ababa, two new wood-processing plants and three leather and footwear factories. The structure of industrial enterprises shows that 90% were still based on the processing of agricultural products.

The composition of enterprises in Eritrea is more varied; it includes chemical factories as well as match, paper, pottery and salt enterprises. There are also enterprises for the further processing of agricultural products, for example, slaughter-houses, enterprises for canning meat, eggs, fish, etc. Out of 83 enterprises in operation in 1954, 36 constituting 43% of the total were not based on agricultural products. These include chemical plants, match factories, paper, glass and metal works and other consumer goods industries. These enterprises are not utilising their full capacity. An increase in production could significantly reduce the need for imports of some consumer goods.

In 1954 the 249 industrial enterprises in the country employed about 18 000 persons of whom 5 700 were in Eritrea. The value of production amounted to Eth.$ 62 million of which Eritrea contributed Eth.$ 22.6 million. Fixed capital assets in industry amounted to about Eth.$ 46.6 million in Ethiopia and Eth.$ 30 million in Eritrea, the total being Eth.$ 76.6 million. This means that for every employed person in the country as a whole the value of fixed capital assets was about Eth.$ 4 250 and the value of output about Eth.$ 3 440. The small value of capital and output per worker reveal that the bulk of industrial enterprises were not equipped for modern industrial production and that many of them are based on handicraft methods of production.

Since 1952, however, the total amount of investment in industry was substantially increased and directed to the creation of plants with greater output. Capital investments in industry in the period 1951-54 were as follows:

New Investments in Manufacturing Industry
Excluding Eritrea

	Million Eth.$
1951	2.9
1952	8.4
1953	7.4
1954	6.1

The greater part of these investments went into the construction of the sugar plant, the textile factory and the leather and footwear factory. A new textile factory and pottery were started in Eritrea both of which are near completion.

The new installations are more productive and use more modern methods. It may therefore be concluded that though industry is still in its infancy it has been developing more intensively in the last few years.

The location of industry has mainly been concentrated on a few large centres of consumption, notably Addis Ababa, Asmara, Diredawa and Nazareth. This was due to the presence of a market in these areas and transport facilities. In the case of some of the smaller enterprises, the possibility of obtaining electric power was also an important factor in their location.

Most enterprises aimed primarily at supplying the domestic market. Only a small number of slaughter houses and food canning factories were mainly producing for export. Export figures for canned and frozen meat during 1953-55 are given below:

Export of Canned and Frozen Meat

	Million Eth.$
1953	1.7
1954	2.2
1955	3.1

Almost all domestic industries produce consumer goods required for the home market, and only a small fraction of the timber building material and metal industries produce capital goods.

Main Lines and Targets of Development

Industrial development should aim at better utilisation of the country's abundant raw materials so as to meet the growing demand of the home market. To achieve a more rapid industrial expansion, however, it would be necessary to secure considerable amounts of investment funds from private and public sources at home and abroad.

The main raw material basis for further expansion of domestic industry will be provided by agriculture. The increased demand for agricultural raw materials will, however, require an adequate extension of the cultivation of various industrial plants, as well as improved yields and quality. The development of other industrial branches based on raw materials outside agriculture will depend to a great extent on the results of explorations of other natural resources such as ores, minerals, water power, etc.

In the years subsequent to the planned period the further development of industry will be stimulated by the establishment of new hydro-electric power installations as well as by the extension and improvement of the road network, which would facilitate the transport of raw materials and finished products. The foreseen expansion of the domestic market as well as the possibility of increased exports of some industrial products will also encourage further industrialisation. The domestic market is able to absorb, even in the present phase of development, considerable quantities of domestic industrial products, as can be seen from the steady increase in the import of consumer goods. On the other hand an increase in exports of some industrial commodities is possible first to neighbouring and then to other countries. A number of domestic industrial products have already been successfully exported, such as frozen and canned meat, canned fish, frozen eggs, salt, oilcakes, beer, sea-shell products, etc. There are conditions not only for increasing the export of these products, but also to enlarge the list of exported local industrial goods. Taking into account the above considerations the following main targets of industrial development are proposed for the planned period:

(1) The textile industry should be expanded to produce larger quantities of cotton yarn and other cotton products. At the same time home production of raw cotton should be increased with the ultimate objective of fully satisfying the needs of the country's textile industry. The production of sacks and ropes should also be increased to meet the country's requirements.

(2) The food-processing industry should be further developed to enable a fuller utilisation of agricultural products both for the domestic and export market. Existing conditions are especially favourable for the canning and preservation of meat, eggs, fruit and vegetables.

(3) The hide and skin industry should be extended to enable an increase in the production of footwear and other leather products.

(4) The processing of oil-seeds should be expanded in order to increase the output of oil, soap and other products both for the home market and export.

(5) The timber and building industries should be enlarged to meet the growing needs of construction works.

Some Problems of Industrial Policy

The programme of industrial development is based on an analysis of such factors as the available raw materials, the requirements of the home market, the outlook of domestic and foreign investment, and other factors influencing the rate and direction of industrialisation. Since, however, future industrial development will depend mainly on private initiative the programme for industrialisation is both a prognosis and a programme of development including main targets and measures of industrial policy. The Plan has a firm and obligatory character only in so far as it refers to the development of the public sector and the financing of industry from public resources. The available means of stimulating, directing and controling private initiative are, however, sufficient to influence the rate and pattern of industrial development without discouraging or hampering private initiative. It may therefore be assumed that the industrial programme can be achieved by the implementation of the proposed measures since it is based on the country's real possibilities and requirements and are a continuation of recent trends. Some of the projects and negotiations envisaged are underway and a number of arrangements have already been concluded. It must be emphasised that in order to achieve the main objectives, such as the overall volume, general direction and priority of investment and average increase of production, it is not essential to realise every detail of the programme.

The proposed programme for industrial development must be regarded as an integral part of the Plan and of the general economic development of the country,and is a prerequisite for the envisaged development of other branches of the economy.

Fiscal and credit policy should play a significant role in the creation of new industrial enterprises in accordance with the main objectives of the Plan. Credit institutions, particularly the Development Bank, should foster initiative in the industrial sphere where there is a lack of sufficient independent initiative. However, except in certain specific cases, public investment should not be a permanent substitute for private investment. Far from restricting the role of private enterprise it should provide an initial impetus in order to encourage and direct it. The direct participation of the public sector in creating new industrial enterprises is envisaged in cases where the public interest demands it, for example, production of military equipment, printing-works, or where there is a consistent lack of private initiative or where there is an urgent need from the general economic point of view, such as the establishment of a factory for agricultural implements and tools. When granting credits for the creation of some new industrial enterprises the Development Bank should, when necessary, participate as a shareholder. Participation of private capital in some new enterprises might be at first proportionally small, especially where enterpreneurs do not have enough confidence in the success of a new enterprise. When such an enterprise is successfully established and developed it would gain the confidence of investors and enable the sale of Development Bank shares. The proceeds of these shares should further be invested in new enterprises or in the expansion of existing ones. This principle could also be applied to public enterprises.

Planned investments in industry from public sources should amount to Eth.$ 29 million. Of this amount Eth.$ 16 million should be invested by the Development Bank, Eth.$ 6 million from the budget and Eth.$ 7 million from reparations. This constitutes almost half of the total estimated industrial investments. These public funds which should be invested partly in the public sector and partly granted as credits to private enterpreneurs offer sufficient possibilities for planned and efficient industrial development. The credit policy of the Development Bank should be to guide and secure the required direction and rate of industrial development. The bank should further foster private initiative and enterpreneurship and mobilise private capital. An effective means of financing some projects in the processing industry would be to offer credits on condition that the enterpreneurs should participate to a certain extent in investment. Credits for specific projects should be offered in advance so as to allow enterpreneurs to work out basic projects. In some cases the Development Bank in cooperation with the Ministry of Industry and Commerce should prepare preliminary projects in order to assist enterpreneurs.

Attraction of foreign capital is an important element of industrial policy in Ethiopia. The growing interest of foreign enterpreneurs combined with increased opportunities for the profitable and stable operation of industrial enterprises which are likely to arise with the planned development of the country would amply justify the expectations of the Plan concerning the inflow of foreign capital. Foreign enterpreneurs have already expressed interest in certain projects and in some instance negotiations have either been completed or are under way.

Fiscal and tariff measures should continue to contribute to industrial development. The existence of a long-term plan would make possible broader and more efficient measures for encouraging further industrialisation and a more productive use of capital.

Investments

In order to attain the targets of industrial development it is necessary to invest considerable resources in the extension of existing and construction of new factories. The expected investments in industry for the planned period are given below:

Investments in Manufacturing Industry in 1957-1961[1)]

	Million Eth.$
Textiles	20.3
Food Processing	20.0
Leather and Footwear	2.5
Chemicals	1.7
Timber and Building Material	2.9
Metals	2.6
Printing	1.5
Cottage Industry	1.2
Others	3.4
Studies, Explorations, Research and Projects	1.0
TOTAL	57.1

1) Above estimates are based on the preliminary investment programmes for each new project. In addition to the value of investments these projects include calculations of production costs, value of production and the profitability of particular industrial projects.

A new cement factory requiring a total expenditure of about Eth.$ 3 million is expected to be completed after 1961.

As the above table shows, priority is given to investments in the textile and food-processing industries. About 70% of investment in industry is devoted to these two branches. Such a large share of textile and food-processing industries in total investments is a consequence of very favourable natural and market conditions for these two industrial branches which have the most favourable prospects of development. However, investments in other fields of industrial development should not be underestimated because in spite of their small volume they would produce favourable economic results.

It will be noted that the average annual investment in industries is Eth.$ 11.4 million. Considering the steady increase of new investments in industry during 1950-1954 (reaching Eth.$ 7 million in 1954) the average annual investment of Eth.$ 11.4 million during next five years is not excessive. Average annual investments foreseen by the Five-Year Plan, though considerably larger than heretofore, are not too large in relation to the present possibilities of capital formation. In 1954 the gross output of manufacturing industry amounted to about Eth.$ 61.7 million of which (excluding a number of small enterprises) Eth.$ 18.5 million constituted profit and depreciation and the remainder cost of raw material, power, salaries and other costs. In the same year about Eth.$ 7 million, i.e. 37% of the Eth.$ 18.5 million was invested in industry. However, the total accumulation in industry is larger since a number of industrial enterprises (leather,footwear, cement, glass, beer,etc.) made a considerable profit in wholesale and retail trade.

It is estimated that during the planned period domestic industrial investments together with reparations will amount to about Eth.$ 37.6 million, i.e. 65% of the total value of investments. The rest of Eth.$ 19.5 million is expected to constitute direct private foreign investments. Funds from domestic sources and reparations are estimated as follows:

	Million Eth.$
Domestic Sources	30.5
Budget	6.0
Bank Credits.	16.0
Private Investments	8.0
Public Enterprises	0.5
Reparations	7.0
TOTAL	37.5

It is estimated that the budget will provide Eth.$ 6 million,i.e. about 10% of total investments. These budgetary investments and reparations should be allocated to those projects which are most urgently needed and which would stimulate other private investment in industry. Other domestic investments are estimated at Eth.$ 24.5 million, i.e. 43% of total investment. The larger part should be provided in the form of bank credits, the rest being direct private investments.

The new industrial projects are selected and proposed in accordance with existing natural and economic conditions. Most of them are small and medium scale projects which do not require big investments and which will yield results in new production and income in a relatively short period, thus contributing most efficiently to the further industrial and economic development of the country.

Development of Particular Branches

It is estimated that planned industrial development will in the next five years assure the following results in certain branches of industry.

Textile Industry -The Plan envisages increased production of cotton-yarn, cotton cloth and other finished cotton products, as well as sacks and ropes. It is also proposed to introduce the industrial manufacture of flax into the textile industry. Production of cotton-yarn in 1954 amounted to 1 720 tons and is expected to rise to 2 800 tons in 1957 as a result of the construction and extension of some textile factories. A further increase is, however, necessary in order to obviate or at least reduce imports, which in 1954 amounted to 1 564 tons. A considerable increase is also envisaged in the production of cotton cloth, which amounted to about 3.5 million sq.m. in 1954 and is expected to reach about 5.9 million sq. m. in 1957 with the construction of new factories. The insufficiency of home production may be seen from the fact that about 55 million sq.m. of cotton cloth were imported in 1954 and about 44 million sq.m. in 1955. A corresponding increase is also foreseen for other textile products, such as blankets, knitted goods and ready-made clothes.

The production of sacks, which amounted to about 1 million pieces in 1954, is expected to be raised to 1.5 million by 1957, by expanding the existing factory, though even this will be insufficient, since in 1954 some 2.4 million sacks were imported.

It is proposed that during the planned period new textile factories should be constructed in the main consumption centres which are at the same time well placed from the point of view of power and raw material supplies. On the basis of agreements already contracted and concessions granted it is expected that in comparison with 1957 a further 3 700 tons of cotton-yarn will be produced by 1961 which will make possible the production of about 18 million sq.m. cotton cloth and an adequate quantity of blankets and knitted goods. One factory is to be built out of reparations, the concession for another has been granted, while other projects are under consideration. New investments should result in the production of a further 1.5 million sacks by 1961. The requirements of the country would thus be largely met. A further increase of textile production after 1961 would be made possible by investments provided for in the Plan, thus the production of cotton cloth would be increased by another 12 million sq. m. in 1962. An adequate quantity of blankets and cotton-yarn would also be produced.

To achieve this increase of textile production investments of about Eth.$ 20.3 million will be needed in the period 1957-61. It will be also necessary to secure about 10 000 tons of raw cotton some of which can be produced in the country, as there are good natural conditions for its growth. Up to now industry has mainly relied for its cotton supplies on foreign sources as may be seen from the steady increase of imports in the period 1951-55.

Import of Raw Cotton in 1951-55

	Tons
1951	657
1952	1 664
1953	2 052
1954	2 692
1955	2 913

In order to attain the planned output of sacks and ropes it will be necessary to increase production of sisal, dumm and other plants for which conditions are favourable.

Food Processing Industry -Production in this field includes oil, sugar, raw and processed meat, wine, beer, fruit-juice, alcohol, flour and its products, dairy products, coffee and cereals, tinned fish and salt. The effect of planned development will be discussed only in terms of the more important of these products.

The industrial production of oil absorbs only a small portion of domestic oil-seed output, the greater part of which is exported, while a smaller part is processed by the existing cottage industry. Existing factories are not working at full capacity and only a small increase is anticipated; production is expected to reach 6 000 tons of oil and 5 000 tons of oil-seed cake at the end of the planned period. Though it is not proposed to construct new oil factories in the period 1957-61, it is planned to make fuller use of existing plants.

It is expected that an expansion of existing plant will enable sugar production, which amounted to about 15 800 tons in 1955, to reach 18 000 tons in 1957 and be doubled in the period 1958-61. For this expansion investments amounting to Eth.$ 14 million are anticipated. This would also provide an increase of 14 000 tons a year after 1961. Up to 1954 the country's sugar requirements were met entirely by imports, but with the establishment of the plant at Wonji there has been a drop in imports.

In the period 1951-55 sugar imports were as follows:

Import of Sugar in 1951-55

	Tons
1951	10 263
1952	9 724
1953	17 412
1954	22 262
1955	12 293

Slaughter house meat production up to 1954 was mainly directed to export. Since then, however, existing slaughter-houses have been expanded and a new slaughter house has begun production in Addis Ababa. It is estimated that in 1957 total production will be about 6 000 tons of raw meat and about 3.6 million tins of meat. In the period 1957-61 two new slaughter-houses are to be built in the main production and consumption centres. They would deliver to the market about 21 000 tons of raw and frozen meat with corresponding quantities of by-products. The construction costs of each slaughter-house are estimated at about Eth.$ 2.3 million. Data given earlier on export of frozen and canned meat show that exports are steadily increasing. The expected increase should meet growing requirements of both the domestic and foreign markets.

It is anticipated that the production of canned fruit, vegetables, fruit juices, wine, soda and mineral water etc. will be increased every year, and that it will be consumed by the domestic market. In 1957 production should reach a value of about Eth.$ 3 million annually. A more intensive increase of production in existing factories is envisaged for the period 1957-61. It will coincide with increased production of agricultural raw materials. It is foreseen to construct two new fruit and vegetable canning and two new fruit-juice pressing factories. Construction costs of these factories are estimated at about Eth.$ 460 000.-

Beer production in 1954 amounted to about 29 000 hl. An increase to 30 000 hl. is expected in 1957 as a result of increased capacity and the anticipated growth in the demand of the domestic market. It is planned, however, to build new plant for the production of beer and alcohol. The increase of domestic beer production in existing breweries should reduce the need for imports which amounted to about 100 000 bottles annually in the period of 1951-55. In addition to satisfying domestic consumption it should be possible to export some quantities to neighbouring countries.

Flour production in industrial mills amounted to about 13 000 tons in 1954, increasing further in the following years. Considerable quantities of macaroni, biscuits and other flour-products have so far been imported though conditions are favourable for producing them at home. It is foreseen that five mills costing Eth.$ 250 000 will be constructed during the planned period in the various agricultural centres. The capacity of these new mills should amount to about 11 000 tons annually, while annual capacity in the three mills which are to be put in operation by 1961 would amount to about 6 500 tons. It is thus expected that total output in 1961 would reach 30 000 tons of flour and 1 700 tons of macaroni and biscuits.

Industrially processed milk amounted to about 2 000 tons in 1954 and existing market conditions provide a basis for anticipating a further increase. It is envisaged that in the period 1957-61 four new dairy plants would be built at a total cost of about Eth.$ 320 000.- Each dairy should have a capacity of about 2 500 tons so that total output would be 10 000 tons. Industrial processing of milk and qualitative dairy production should meet the requirements of the domestic market which are steadily growing. These requirements have so far been met by imports as shown below:

Import of Dairy Products in 1951-55

	Thousand Eth.$
1951	166
1952	212
1953	441
1954	468
1955	538

Salt is produced in two salt works at Massawa and Assab. There are no production problems though there are marketing difficulties. The expected production in 1957 should reach the value of about Eth.$ 5.8 million, slightly more than in 1955. In the period preceding the federation of Eritrea salt requirements were met entirely from imports. Even in the last two years a certain amount of fine quality salt was still imported despite the fact that existing salt works have large reserves of salt. The import of salt during 1951-55 is shown below.

Import of Salt in 1950-55

	Tons
1951	51 002
1952	51 688
1953	35 831
1954	554
1955	1 790

Leather and Footwear Industry - Production in 1954 amounted to 846 tons of all kinds of leather and soles and about 80 000 pairs of shoes. By further expanding production in existing factories it is estimated that about 930 tons of leather and soles and about 90 000 pairs of shoes will be produced in 1957.

During 1957-61 it is proposed to construct two leather factories in the main production and consumption centres, as well as a footwear factory. Expansion and modernisation of the existing leather and footwear factories is suggested so that a total production of about 2 150 tons of leather and soles and about 300 000 pairs of footwear may be reached by 1961. In 1962 after the completion of the second leather factory, production of leather and soles will be increased by a further 1 250 tons. This estimated increase is based on the expanding requirements of the domestic market. The increased production of leather should meet the requirements of existing and new foot-wear factories. Projected output of footwear, however, will not probably be able to meet the growing demand of the domestic market to the full. The construction of new plant is justified by the following import figures for 1951-55:

Import of Leather and Footwear

	Leather kg.	Shoes and Boots Thousand Pairs
1951	477	212
1952	604	164
1953	3 229	348
1954	5 629	687
1955	5 773	820

There have so far been some difficulties in producing leather owing to bad manipulation of raw hides and skins by the producers with a consequent deterioration in quality. It is projected that slaughter-houses will supply the greater part of hides and skins in the future, and the quality of basic raw materials should therefore improve considerably.

Total investments in new projects in this branch of industry should amount to about Eth.$ 2.5 million.

Chemical Industry - Production in this branch of industry includes soap, glass, matches, paper, dyes, glue, oxygen, carbonic acid, etc.

The production of soap though annually increasing amounted to only 2 750 tons in 1954, which was insufficient to meet local consumption. Glass production was mainly directed to the production of bottles. In 1954, 5.9 million bottles were produced, but by expanding existing capacity it is expected to increase to about 7.5 million in 1957. A corresponding increase is also anticipated in the production of matches, from 9.2 million boxes in 1954 to about 12 million, and in paper production from 257 tons in 1954 to 300 tons, by the fuller utilisation of existing plants.

By constructing new factories for soap, glass and dyes and by expanding existing ones, production is expected to increase further by 1961. The domestic market is already able to absorb all future increased production. It is estimated that about 5 500 tons of soap, 11.5 million bottles, 800 000 sq.m. flat glass and 400 tons of paper board will be produced by 1961. The production of other industrial products such as dyes, glue, oxygen and carbonic acid should also be increased to reach the maximum capacity of existing plants.

The need to increase domestic production of these products for which adequate raw materials are available in the country is evident from the following data:

Import of Soap, Glass and Dyes in 1951-55

	Soap tons	Bottles tons	Oil Paints in thousand Eth.$
1951 . . .	933	39	148
1952 . . .	11 130	76	357
1953 . . .	1 655	89	407
1954 . . .	2 441	90	359
1955 . . .	1 921	59	738

Raw materials for the production of soap exist in the plentiful supply of oil seeds, the greater part of which is at present exported. For the production of glass and bottles large deposits of high grade quartz sand may be found in many parts of the country. These deposits are well-placed in relation to consumption centres.

Investments in new factories are estimated at about Eth.$ 1.7 million for the period 1957-61.

Timber and Building Material Industry -The products of this branch of industry in the main include sawn timber, furniture, cement, cement products, bricks, sanitary ware and ceramics.

Up to 1954 the timber industry mainly consisted of wood cutting and producing simple types of sawn timber, all of which were sold on the domestic market. Because of the intensive wood-cutting practised in recent years only a slight increase of cutting is foreseen for the next few years. The manufacture of wood products, however, must be considerably increased and diversified. In 1954 about 11 000 cubic metres of sawn timber were produced and it is not proposed to alter perceptibly the present volume of production. The value of production of wood processing, however, is expected to rise from about Eth.$ 300 000 in 1954 to Eth.$ 1.5 million in 1961.

Of building materials produced in 1954 the most significant was cement. Production of the Diredawa plant amounted in 1954 to about 13 000 tons. Other requirements were covered by imports in the following quantities.

Import of Cement in 1951-55

	Tons
1951	1 728
1952	2 376
1953	12 253
1954	4 965
1955	9 067

Considering the growing needs it is expected to make the fullest possible use of the plant in Diredawa so as to reach a production of 30 000 tons of cement by 1961.

In order to meet present needs brick production is expected to be increased from 6.5 million bricks produced in 1954 to 8.5 million in 1957. A corresponding increase in the production of tiles, lime, pipes, and other cement and asbestos building products is also expected.

In order to meet the growing demand for building materials arising out of the construction of industrial plants, dwellings, etc., it is proposed to increase production of timber and building materials in the period 1957-61. This increase can be achieved by constructing new factories and by fully utilising existing ones. It is, however, neither proposed to set up new saw-mills, nor substantially to extend existing ones, but requirements might be met by transferring mills to new unexploited forest regions. It is also planned to construct a plywood and wooden crate plant, as well as a furniture factory.

Estimated investment in the timber industry, together with cost of moving existing saw-mills, should amount to Eth.$ 1.3 million. Production of new plants is expected to reach a value of Eth.$ 1.6 million in 1961. For the period 1957-61 the construction of a new brickyard and pottery costing about Eth.$ 155 000 and estimated to attain an annual production of about Eth.$ 380 000 are projected.

Cement production can not be considerably increased in the period 1957-61 since the maximum capacity of the existing plant is about 30 000 tons of cement annually. Production in 1957 is expected to reach 25 000 tons. A new cement plant is to be built in the period 1960-62, its location depending upon raw materials, fuel and power supply. Output of the new plant is estimated at 30 000 tons and total investment costs are expected to be about Eth.$ 3 million.

Total investments in this branch of industry are estimated at about Eth.$ 2.9 million for the period 1957-61. About Eth.$ 1.5 million are to be spent after 1961 on the construction of the above-mentioned cement plant.

Metal Industry -Owing to the fact that there were very few enterprises in this branch of industry, which was more in the nature of handicraft, the value of production in 1954 was relatively small, amounting to no more than about Eth.$ 550 000.- As no plant of any significance has been built after 1954 it is probable that the value of production increased only slightly.

For the period 1957-61, however, the construction of three new metal-plants is planned in order to meet essential requirements for metal products. The first, an assembly workshop, which should perform various assembling services, would have an approximate capacity of 70 000 norm-hours per year and its construction would cost about Eth.$ 300 000.- The gross annual output is estimated at about Eth.$ 3 million of which materials and power account for 75%. The second project is a metal-processing enterprise which would be in the nature of a service industry producing various metal products for construction as well as for rural and urban consumption. Its estimated capacity would be about 5 000 norm-hours annually and the gross output Eth.$ 4 million of which materials, power and operation costs account for 75%. Construction costs are estimated at Eth.$ 350 000.- The relatively low construction costs of the above two enterprises are based on the assumption that they will not be fully mechanised and will be based on simple production not requiring much fixed capital. The largest project in this branch of industry is the construction of a metal manufacturing plant for army purposes which would begin by meeting the army's requirements in simple metal goods and later could produce more complicated articles. The estimated capacity of this establishment would be 760 000 norm-hours annually, which would make it a middle-sized enterprise. Construction costs are estimated at about Eth.$ 2 million.

In addition to the above new metal processing projects mention should be made of projected assembly workshops for agricultural machines and tools, the capacity of which would depend upon the requirements for these products.

Printing Industry - Among existing printing presses, in the main small and insufficiently mechanised, 4 enterprises were in operation in 1954, with a value of production amounting to about Eth.$ 955 000.- In view of growing requirements it is expected that production will be further increased by expanding and improving the existing enterprises at a cost of Eth.$ 1.5 million.

It is planned to establish in the period 1957-61 a new printing works and bookbindery out of public funds for the printing of books and newspapers. Estimated construction costs would amount to about Eth.$ 1.5 million and the gross output is expected to amount to about Eth.$ 3.9 million by 1961.

Other Industrial Enterprises - This group of enterprises include small, heterogenous enterprises mostly in the nature of handicrafts. The value of the gross output in this field amounted to about Eth.$ 3 million in 1954. It is expected that about Eth.$ 3.4 million will be invested in this kind of enterprise in 1957-61, which would raise the value of total annual gross output to about Eth.$ 3.9 million.

Cottage Industry -Handicrafts and cottage industry are both widespread. Their products in the main supply the small local markets and the number of workers they employ is often large. Although statistical data on cottage industry are not available it is obvious that this form of economic activity plays a role similar to that of industry, and that attention should be paid to it in the framework of measures designed to encourage industry.

Cottage industry should be encouraged to supply the small local markets with various products, such as textiles, leather, pottery, fancy wooden articles, simple tools and other consumer goods. This would have the additional advantage of training a number of workers in skills which could be useful in industrial enterprises. The government ought therefore to support this industry and help it obtain raw materials, tools and implements and assist it in the marketing of its products. It is proposed that the Government should invest about Eth.$ 1.2 million during the planned period for the promotion of cottage industry. This would improve output and ensure a better supply of goods for the home market.

Research

It is estimated that about Eth.$ 1 million should be spent on research in the period 1957-61. This would be used to undertake technological and related studies in consumption with further industrial development after 1961. The main objective should be to examine profitable lines of production not yet developed or insufficient to meet present domestic requirements. There are opportunities in many areas for the production of industrial raw materials which have not been explored, for example, textile raw materials, such as sisal, dumm and various palms. It is also necessary to find new raw materials for building purposes and to experiment with certain kinds of trees for the timber industry. Technological research should be carried out into production of tannin, wood pulp, paper, etc., as well as into raw materials for the chemical industry which may be expected to make more intensive progress in years subsequent to the planned period. The possibility of further product variations and improvement of quality in the food-processing industry, as well as processing of the further agricultural products, should be considered.The import of consumer goods from abroad should wherever possible be limited,while in a number of cases exports to foreign countries should be expanded. There should also be research into the utilisation of other raw materials, especially iron, copper and other minerals for the eventual development of a metallurgical industry. Explorations should be undertaken for asbestos,mica,potassium salts, sulphur, etc., with a view to their industrial processing.

Expected Development

In the above review of expected industrial development by branches figures were given of anticipated production during the planned period which were also compared with the production attained in 1954. Figures were also quoted for imports of commodities to be manufactured at home under the provisions of the Plan and for investments in new plants to be constructed in the period 1957-61.

The following data clearly indicate future lines of planned development. They show the dynamic increase in the value of production, the expected trend in some staple industrial products and the number of persons employed in industry. The expected development of industry is visible from the data on the gross output of manufacturing industry in 1954, 1957 and in 1961. As a certain number of new plants will be completed by the end of 1961 it has been considered useful also to show the gross output for 1962.

Gross Output of Manufacturing Industry

	Million Eth.$			
	1954[1)]	1957	1961	1962
Textiles	12.3	13.o	34.6	47.o
Foot Processing and Beverages	35.9	51.3	73.4	93.4
Tobacco and Cigarettes	1.1	1.5	2.o	2.4
Leather and Footwear	1.8	3.3	13.7	22.1
Chemical	2.4	2.8	9.6	10.o
Timber and Building Material	3.7	5.5	9.9	10.2
Metal	0.5	0.9	22.9	23.1
Printing	1.o	1.5	5.5	5.6
Other Industries	3.o	2.o[2)]	3.9	4.2
TOTAL	61.7	81.8	175.5	218.o
Index	100	133	284	353

1) The data for 1954 are given on the basis of statistics of the Ministry of Commerce and Industry and for Eritrea according to estimates.

2) The decrease in this item in 1957 is due to some changes in statistical methodology, i.e. some enterprises included in this item in 1954 are included in other items.

The above shows that the estimated gross output of manufacturing industry in 1961 would reach almost three times the amount realised in 1954. In 1962 when all industrial plants to be built under the Plan will be producing, total industrial output will be further increased to three and a half times the 1954 figure.

Estimated output of some staple industrial products is given below:

Output of Some Important Industrial Products

	Unit	1954[1)]	1957	1961	1962
Cotton Yarn	tons	1 720	2 794	6 500	9 000
Cotton Cloth	million sq.m.	3.5	5.9	21.5	33.5
Sacks	million pcs.	1.0	1.5	3.0	3.4
Leather and Soles	tons	860	930	2 150	3 400
Leather Footwear	thousand pairs	80	90	300	350
Soap	tons	2 750	2 900	5 500	5 800
Sawn Wood	thousand c.m.	11	11.5	12	13
Cement	thousand tons	13	27	30	45
Sugar	thousand tons	15.8[2)]	18	30	44
Meat	thousand tons	2	6	24	45
Beer	thousand hl.	29	30	38	40

1) Data for 1954 are given on the basis of statistics of the Ministry of Commerce and Industry, and for Eritrea according to estimates.

2) This refers to 1955.

Expansion of production in existing factories, as well as the creation of new enterprises under the Plan, will increase employment in industry. This increase is estimated as follows:

Man-power in Manufacturing Industry

	Workers and Employees
1954	18 000
1961	28 000
1962	30 000

The development programme for industry was drawn up on a basis of the availability of raw materials and capital, and the demand of the domestic market. Although it will not fully satisfy all the requirements of the country for industrial products it will contribute to an increase in national production, satisfy the local market to a greater extent than before, expand trade and the monetary economy in general. At the same time it will lay the foundations for an acceleration of industrial development in the years subsequent to the planned period.

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Chapter 15

TRANSPORT AND COMMUNICATIONS

Communications and transport facilities are lagging far behind existing needs and represent an obvious impediment to economic progress. Certain regions of the country with considerable agricultural potentialities, particularly for coffee and other marketable commodities, have poor communications both with urban centres and the sea-ports. In some of these regions there are possibilities for the development of mining. This cannot be carried out without proper communications and lower transport costs. The problem of transport and communications in the present phase of development is a basic obstacle to the better use of the country's resources. Underdeveloped transport and communications hamper the expansion of the market, the transition to a monetary economy and the rise in the level of living standards, technical knowledge, etc. The Government has therefore been paying considerable attention in recent years to the development of transport and communications. About 10-15% of the budget have been invested in this sector in the last five years. Road building comprised about 60% of budgetary investments. These efforts of recent years have contributed considerably to the improvement of transport, particularly roads which now comprise about 5 000 km. of hard surface and constitute a basis for an effective network for the transport of commodities within the empire. The improvement of communications and transport will, however, remain an essential problem for a considerable time to come and deserves the full attention of the authorities.

The following targets are proposed for the planned period:

(1) The present programme of road construction should be implemented. This would give access to the south, south-west and west of the country, thus linking these regions with urban centres and sea-ports. A systematic maintenance service should be organised both for existing roads and also for new roads to be built in the next five years.

(2) The capacity of the port of Assab should be enlarged, the first phase of construction being completed in accordance with the existing project.

(3) Air transport should be developed and modernised to meet the requirements of growing traffic.

(4) Telecommunications should be extended and modernised in accordance with the present programme.

(5) The necessary studies and preparatory projects for further development of transport and communications should be undertaken.

In order to achieve the above objectives the main problem is to secure sufficient investment funds. Overall development requirements of the country necessitate, however, balance in the allocation of government funds between transport and the other sectors of economic and social activities. As the funds which the Government was able to allocate from its own revenues were not sufficient to secure the needed rate of investment in transport and communications, this sector of the economy relied mostly on foreign loans.It is planned for the period of the next five years to continue the same pattern of investment. Estimates based on government funds and expected foreign loans indicate that a sum of Eth.$ 218 million will be devoted to the construction of roads, the completion of the first phase of construction in the port of Assab, the modernisation of air transport and the extension of the telecommunications network. It is estimated that a further Eth.$ 24 million will be invested by private companies and public enterprises in purchasing motor vehicles and modernising the railways. Investments in transport and communications envisaged by the Plan amount to Eth.$ 240 million, i.e. about 45% of estimated total investments. Thus priority is given to this sector on which the entire future development of the country's economy depends.

Despite the large share of investments allocated to transport and communications, it should be emphasised that the projected investment, particularly in roads, is not sufficient to meet all development requirements in the planned period. Far larger investments would be needed in order to solve the acute transport problems, especially the question of linking certain regions of the country of abundant natural resources with the urban centres and the sea-ports. Such investments, however, cannot be procured in the short run out of the limited funds available. Further large-scale investments in road construction would depend primarily upon the possibility of securing additional foreign aid or loans under favourable conditions.

Investments

Roads -A large scale programme for the reconstruction of existing main roads and for the construction of some new roads was carried out in the period of 1952-56. The realisation of this programme created an improved road network and better traffic facilities in the most important directions which made possible the linking of certain economic regions and provided access to the sea-ports.

The road development programme should accomplish two main tasks in the next five years:

(1) The first comprises the development of the road network towards economically rich regions which lack adequate communications. This would involve firstly the construction of roads in the area south of Jimma, secondly the linking of the region of Gore with that of Jimma and Lekemti, thirdly the extension of the road from the Blue Nile to lake Tana, and fourthly the construction of a road linking Western Ethiopia with the Sudan. It is also planned to extend the road on the Awash-Miesso line and from Sabbata via Hossana and Soddu towards Gidole. The following roads should therefore be constructed: Jimma-Agaro; Jimma-Bonga; Agaro-Gore; Blue Nile -Debra Markos; Awash-Ghelemso-Asbe Teferi-Miesso; Asbe Teferi-Harar; Debra Markos-Dangila; Dangila-Bahar Dar; Sabbata-Hossana; Hossana-Soddu; Soddu-Gidole; Assela-Goba; Goba-Ghinnir;Lekemti-Gimbi; Gimbi-Kurmuk (or Dangila-Er Roseires or Gondar-Metana). This road construction programme is more ambitious than the funds foreseen by the Plan allow. For that reason the priority, length and type of roads to be constructed should be annually reviewed according to the funds available and to the rate of their inflow.

(2) The second task is the organisation of a permanent service for systematic road maintenance. In addition to the existing hard road network on which there is substantial motor traffic the total length of roads to be regularly maintained should be increased by the construction of about 1 500 to 2 000 km. of new roads in the planned period. An adequate maintenance service should therefore be established which would undertake its task more rationally by the use of abundant labour.

Technical and economis studies should be undertaken comprising road construction and maintenance programmes. These studies should aim at ascertaining the most suitable surface for the different regions of the country. Preference should be given to the type of road surfaces which place the least possible strain on investments whilst securing all-weather traffic. These studies should be undertaken to determine the most suitable type of organisation for road construction, the ratio of machinery to man-power employed, etc. Their results should be applied as soon as possible with a view to the elimination of unnecessary expenditure.

Estimated investments in construction and maintenance of roads amount to a total of Eth.$ 120 million for the planned period.

The Assab Harbour -The first phase in the construction of the port of Assab should be completed in the next few years. The capacity of the port cannot meet present requirements. Hence there is a bottleneck in traffic and foreign trade, especially as the most important economic regions of Ethiopia gravitate to this port. A steady increase in port traffic in recent years indicates that Assab is becoming a key point for exports and imports despite technical deficiencies in existing installations. It is therefore essential to enlarge the capacity of this port in the quickest possible time, and to adjust it to growing traffic requirements.

In the first phase of construction which would take three years the capacity of the port should be increased by 300 000 to 400 000 tons annually, excluding oil products requiring special installations; about 1 000 metres of wharf and about 12 000 sq.m. of warehouse space should be built; the port should be supplied with mechanical cranes for loading and unloading and installations for storage, as well as administrative offices and homes for the staff. Estimated investments amount to about Eth.$ 24 million, part of which should be secured from foreign loans.

An amount of Eth.$ 4.5 million will be required to purchase a number of ships. This amount does not include the purchase of ships on account of foreign aid.

Air Transport -Air transport has been developing rapidly in recent years. The number of passengers has increased almost five fold in the last five years, and freight-traffic has more than doubled. Nevertheless, present air-transport capacity cannot meet the ever-growing needs. For these reasons it is indispensable to extend and modernise the existing installations, and to purchase new airliners in the next few years, including four-engine planes and cargo airliners. It is also proposed to modify and improve airfields which do not at present satisfy modern transport requirements, as well as to extend ground installations and mechanical services for transport and maintenance. Estimated investments amount to Eth.$ 47.5 million which have already been secured from a foreign loan.

Telecommunications -Existing telecommunications must be extended in order to meet the requirements of the growing traffic. The proposed programme includes the installations of new inter-urban exchanges in the main regional centres, purchase of new subscriber equipment, extension of the local network, extension of main lines towards important commercial and administrative centres, purchase of telegraphic and radio equipment, and the training of personnel. Estimated investments amount to Eth.$ 10 million, a part of which will be secured from foreign loans. A supplementary programme has been worked out in case additional foreign and domestic funds become available.

Summary of Investment Programmes -According to the above analysis of the programme total investments in transport and communications should be as follows:

Investments in Transport and Communications in 1957-61

	Million Eth.$
Construction and Maintenance of Road Network	120
Purchase of Motor Vehicles and Modernisation of Rolling Stock . .	18
Railways and Projects	6
Construction of the Port of Assab	24
Modernisation and Extension of Air Transport	47.5
Telecommunications	10
Purchase of Ships	4.5
City Traffic	10
TOTAL	240

Out of the total amount of investments about Eth.$ 103.5 million will come from domestic sources: Eth.$ 84.5 million from the budget and Eth.$ 19 million from private funds and bank loans, especially for the purchase of motor vehicles. The remaining Eth.$ 125.5 million would come from foreign loans wich have already been agreed in principle. Investments in railways estimated at Eth.$ 9 million can be financed from foreign private sources, and Eth.$ 2 million for the purchase of ships from reparations.

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Chapter 16

COMMUNITY DEVELOPMENT

Community programmes should play an important role in the overall development of the country and particularly in rural development. The main purpose of these programmes is to create on the local level the conditions required for accelerated economic, social and cultural progress. The experience of many underdeveloped countries suggests that full results in the economic sphere, public health, education and the standard of living can only be achieved if coordinated and overall efforts are undertaken in various local units, such as districts, communities, etc. Community programmes should also mobilise the local population and the abundant local resources for the process of economic development. These programmes, restricted in the beginning to a small number of selected development districts or communities, may involve a large number of various local works and projects which are indispensable for rural development, such as:

(1) Water sources should be harnessed, water wells and channels dug, public fountains constructed and other projects carried out for the improved water supply. Water troughs should also be provided for cattle.

(2) In the villages streets should be repaired, ditches dug to carry away rain and torrents and pits sunk for refuse and dead livestock; trees should be planted along the streets and around villages to provide protective forest belts, firewood, etc.

(3) To ameliorate conditions in selling agricultural products the common markets should be reconstructed; covered spaces and stores should be erected for exhibiting products; markets should be provided with scales; organised services should be established for maintaining cleanliness; cattle markets should be separated from the other markets.

(4) Townships should be electrified wherever possibilities exist (for reference see special programme contained in the chapter on electricity).

(5) A standard type of school buildings should be erected for elementary education.

(6) Public health centres and infirmaries should be set up in some centres.

(7) Smaller buildings should be erected for the use of local authorities.

(8) Small economic projects should be established to serve the local population, such as water and other mills, stores for agricultural products, particularly in purchasing centres, small oil-presses, slaughter-houses, nurseries for fruit-trees and afforestation, livestock-breeding stations, veterinary stations, etc.

(9) Local roads linking villages with each other, with cities and with main lines of communication should be built and repaired.

If these local projects were carried out in the same way as the main projects construction enterprises would have to be engaged, costs would be high and would hàve to be met from the budget and other central funds. However, there is no need to engage specialised construction enterprises for small projects which serve the population of rural settlements and whose advantage is clearly common to all. It should be possible to obtain the cooperation of local inhabitants and secure voluntary labour from among the underemployed labour pool, thus reducing construction costs and alleviating the burden on the central authorities. These would need only to purchase simple tools, to provide certain installations, a small quantity of indispensable building materials and remuneration for skilled labour employed in a managing supervisory capacity. The bulk of building materials could be secured from local sources and labour could be voluntary.

Local organisations could work out programmes determining the size of the work to be undertaken, the size of the voluntary labour force required as well as the contribution to be made by the central administration. A separate institution should be created at the level of the central administration to cooperate in carrying out local projects. This institution should have at its disposal a certain number of technical experts who would supervise the programmes, appraise their real value, assess the amount of help needed for their execution and advise local organisations. These experts should be able to draw up on the spot in some settlements common schemes and projects for construction, give technical advice and assistance, and eventually supervise the construction of some larger projects. These activities will no doubt develop slowly at first, flourishing later, as local organisations succeed in making people actively interested, and secure their cooperation and help. It would be particularly useful if the interest of young people in rural areas and in cities could be aroused so that through them a wider campaign could encourage the mobilisation of voluntary labour. In the early stages too broad and ambitious programmes should be avoided so as not to risk a failure which would destroy people's confidence in such programmes.

During the planned period assistance from the Government is expected to amount to Eth.$ 25 million. In the first years it would not be possible to allocate from the budget any considerable sums so that programmes will of necessity be limited to particular regions or provinces. This is necessary at first since the aforementioned central institution for assisting community programmes has first to be established and would not at once have at its disposal required experts to give assistance on a large scale. By acting on a small scale in selected places, experience would be gained, which could later be usefully applied over a larger area. Later, having benefited from first experiences and having secured sufficient funds, community programmes could be undertaken on an extensive scale.

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Chapter 17

EDUCATION

Introduction

There are in existence at the present time three types of schools: church schools long established for the teaching of the Geez language and literature, theology, poetry, Ethiopian law and church music; modern government schools whose teachings are based on a Western type of curriculum; mission and private schools run by various religious and other private organisations. For many centuries formal education in Ethiopia was provided by the Church. Apart from its main spiritual role the Church had always felt and acted as the guardian and preserver of traditional Ethiopian culture whose continuity had been assured by maintaining church schools throughout Ethiopia. Thus through the centuries education has been the preserve of the Church. Its contribution was not only to maintain a supply of learned and educated clergy for the various services of the Church, but also to provide a flow of educated men who filled the various ranks of the civil service.

However, traditional Ethiopian education emphasising church subjects as it did, fell short of the requirements of a society that was undergoing rapid modernisation. Furthermore, Ethiopia's increasing contact with the outside world made it more urgent that the Government should supplement the church schools by establishing modern institutions for the teaching of a Western type of curricula. The feeling that this type of formal education should be offered to the Ethiopian people and that in this respect the Government should play a leading role gained momentum. In consequence under the inspired leadership of His Imperial Majesty a number of modern schools were opened in the country and a considerable number of students were sent abroad for higher studies. By 1935 a good number had returned home upon successful completion of their studies. Thus the Government acquired a more active role in the sphere of modernising and expanding education. This progress was seriously interrupted by the Italian invasion. During the occupation all the modern schools were closed and a policy of systematic elimination of those Ethiopians who had acquired Western education practised, the result being that the network of modern educational institutions was destroyed and the number of educated cadres decimated.

Thus in 1941, immediately after the restoration of independence, the Government found itself with the task of building the modern school system almost from scratch. In the beginning years the main limiting factor to the expansion of education was the scarcity of qualified teachers. The Government found it necessary to hire foreign instructors to teach in the schools. Notwithstanding the above difficulties the government school system has shown remarkable growth during the last fifteen years. Today the Government spends more than 15% of its ordinary revenue on education and maintains about 500 primary, middle and secondary schools, including college level institutions. About 95 000 pupils and students are enrolled in the teaching institutions in the country, and about 400 are studying in higher and technical training centres abroad. Although the advance in education made during the last fifteen years is significant it appears nevertheless that considerable waste could have been avoided with better planning and coordination. This is specially in evidence in the lack of sufficiently coordinated and balanced system. Broadly speaking the high institutions have been allowed to expand without a corresponding expansion of the basic lower levels. Since available resources were limited more provision for the secondary and higher institutions meant less provision for the middle and primary schools. The result was that the secondary schools and institutions for higher learning are not working at full capacity. The present student capacity of the upper level far exceeds the current flow of students from the lower levels qualified for admission to the upper levels.

There is at present in Ethiopia an acute shortage of skill of all kinds and at all levels. The foreigners who are employed in the public services and who have come in numbers to manage industry and commerce are evidence of the current shortage of skill. It is understandable therefore that the Government, faced with a scarcity of qualified personnel to run the public services, should aim at the expansion of the higher institutions. This objective, however, cannot be fully and efficiently attained unless the lower levels of the government schools system - the middle schools in particular - are also expanded rapidly.

Government School System

Primary Schools - The primary schools comprise grades 1 to 4. In 1955/56 the total number of primary schools were 438 of which only 207 schools taught the complete four grades. In the same year the total student enrolment in all primary schools was 80 486. It must be noted, that in 1950 the number of government primary schools offering at least one year of education had reached 522. There was a considerable decrease in the number of schools of all grades by 1951 and thereafter only a slight increase. The reasons for this set-back are as follows:

(1) With the introduction of the Provincial Education Tax in 1947 the Church as a land-owner accepted liability of this tax on condition that it run its own schools. In consequence the Government handed the proceeds of the tax and over 100 schools to the Church.

(2) Nearly all primary schools are financed out of a dedicated revenue based on a land tax; and since this revenue increased at a negligible rate it acted to some extent as a limiting factor to the growth of primary schools.

Primary school enrolment followed closely the trend in the growth of the primary schools till 1951. After that date the growth of primary schools has been more or less stabilized at a lower number though student enrolment has increased at a rapid rate. This suggests that there is much overcrowding in the primary schools. Though the average number of pupils per teacher is about 40, it is evident that in grade one the average class size is 65 students. In addition to the extreme over-crowding in the beginning classes, a low standard in the academic qualification of teachers is a common feature in primary schools. In 1955/56 there were 80 486 primary school pupils of whom 44 675, 18 229, 10 776, and 6 806 were enrolled in grades 1, 2, 3 and 4 respectively. The number of grade 4 students was about 1/3 of those in grade 2. Again of the 29 821 grade 1 pupils enrolled in 1952/53 only 6 806 reached the fourth grade in 1955/56. This implies that less than one quarter of the students had the opportunity to complete the four-year programme. The distribution of schools and of class-room units by grades shows much the same picture. In 1955/56, of the 438 primary schools 207 had all grades, 97 three grades, 70 two grades and 64 one grade. In the same year there were 732 classroom units in grade 1, 497 in grade 2, 384 in grade 3 and only 261 class-room units in grade 4. The analyses of student enrolment, school, and class-room units by grades show that balanced provision is not made for all four grades. It is clear from this that considerable waste of effort and resources is involved unless the incomplete primary schools are completed and the outflow of pupils prior to the completion of the 4th grade arrested.

The Middle Schools - The middle schools include grades 5 through 8. The function of the middle schools is to prepare students for all types of post-elementary schools. Candidates who successfully finish the eighth grade qualify for admission to the secondary schools. In 1955/56 there were 146 middle schools of which 77 were teaching the full programme. In that year the total middle school student population was 11 155 of which 1 896 were enrolled in grade 8. All the schools do not enrol students in grade 8. A still better picture of the distribution of educational opportunity in the middle schools is obtained if we consider the distribution of class-room units by grades. In 1955/56 there were 185 class-room units in grade 5, 139 in grade 6, 117 in grade 7 and only 94 in grade 8, showing that about only half of the middle school student population have the opportunity to finish the middle schools.

If we look at the opportunity of grade 5 students to reach grade 9 in successive years, the above conclusion is confirmed. In 1952/53, 2 375 students were enrolled in grade 5. Of these 2 136, 1 606 and 1 896 students were in successive years admitted to grades 6,7, and 8 respectively. Two considerations clearly emerge from the above analysis:

(1) The 146 middle schools are too few to satisfy the heavy demand for middle school graduates.

(2) The distribution of schools and class-room units is such that about 50% of those who are admitted to the middle schools have the opportunity to complete the full four-year programme.

It is therefore evident that these two factors together must curtail the output of the much needed middle school graduates.

The critical factor in the expansion of the middle schools is teacher supply. In the 1953/54 school year of the 516 middle school teachers and directors 344 were Ethiopians and 172 foreigners. The need for qualified Ethiopian teachers to teach in the middle schools has been recognised and several teacher training institutions established. These include:

(1) the Teacher Training School in Harar;

(2) the Haile Selassie I Teacher Training School in Addis Ababa;

(3) the Haile Selassie I Day School which runs one-year special teachers'training courses for students of all secondary grades;

(4) the special one-year programme for arts and handicraft at the Handicraft School;

(5) the regular Vocation Training Programme for improving the standards of teachers.

The total student enrolment in the teacher training schools in 1955/56 were 629 and the total number of graduates from these schools in the same year were 241. These schools have been steadily expanding every year, but it is unlikely that the needs of the middle schools will be met during the planned period. The problem is further complicated by the fact that teachers are leaving the classrooms of the country at a faster rate than ever before. After teacher loss was absorbed the government school system gained only 93 teachers in 1955. It is therefore essential to step up the output of teachers and devise measures to make the teaching profession attractive to young Ethiopians.

Secondary Schools -There are in Ethiopia including Eritrea, today 27 secondary level institutions of which 11 are academic secondary schools and 16 special secondary schools most of which follow the full four-year specialised vocational training. Students are admitted to the secondary schools after completing the middle schools and have successfully passed the eighth grade general examination. Of the 11 academic secondary schools 3 are located in 12 provinces and Eritrea and the rest in Addis Ababa, 8 provide the full programme, comprising grades 9 through 12.

The special secondary schools are a heterogenous group, offering courses of various kinds. These include the Technical School, the Commercial School, the four year Teacher Training Schools, one Agricultural, a Theological School and Nurses Training Schools. Not all the special schools have the complete secondary grades. In addition to these there are special schools such as the Community Schools, Teacher Training, Telecommunication and Vocational Trade Schools which enrol students only to grade 9, the Civil Aviation School which has grades 9 and 10, inservice technical training and several military training schools.

The total student population in the 27 academic and special secondary schools was in 1955/56 3 633 of which about 400 were girls. Of these, 1 742 were enrolled in grade 9, 1 058 in grade 10, 511 in grade 11 and 322 in grade 12. Grade 12 students were 5 times less than grade 9 students. The reasons for this structure of students by grades are the following:

(1) Some schools do not have four-year courses covering all secondary grades.

(2) The output of the middle schools is increasing year by year so that the beginning classes have more students now than they would have had in previous years.

(3) An examination of student promotion in successive years shows that many students drop out - particularly in the academic secondary schools - before they reach the top grades.

(4) Many leave the secondary schools to seek jobs in the public services and elsewhere.

(5) Many students have been withdrawn from academic and other secondary levels for special government programmes.

The Academic Secondary Schools - The function of the academic secondary schools is to prepare students for the institutions of higher learning. In 1955/56 the 11 academic secondary schools enrolled in all the four grades 2 094 students of which 985 were in grade 9, 659 in grade 10, 274 in grade 11 and only 176 in grade 12. From the above distribution of secondary school pupils by grades it can be readily observed that those in the top grades are very few as compared with those in the beginning classes. This is due to:

(1) The supply of middle school graduates - as mentioned earlier -has been increasing yearly at a rapid rate.

(2) Many of those who go into the beginning classes fail to qualify for successively higher grades.

The experience of the past few years has shown that out of 100 students who are admitted to grade 9 only 27 passed to college level institutions; of the 27 in every 100 who are admitted to College only 9 survive to graduate from institutions of higher learning. The annual need for the products of the academic secondary schools required to fill the beginning classes of the college level institutions which are already established is estimated to be over 500. At present, however, the secondary schools can only supply a quarter of that number. The failure of the academic secondary schools to supply sufficient qualified candidates to meet the needs of the higher institutions is not the lack of teacher supply, which we found to be the most important factor in the expansion of the middle schools, nor the lack of financial support. In these respects the secondary schools are relatively well provided and can accomodate more students than they do at present. Three causes account for the failure of the secondary schools to meet the demand of the higher institutions:

(1) The output of the middle schools is quantitatively and qualitatively limited. Firstly, not enough students are reaching this level, mainly because of the insufficient number of classrooms and teachers. Secondly, far too many students are ill prepared in skills and general "know-how" for more advanced education because of the following reasons: (a) A course of study or curriculum outline is not followed in the elementary or secondary schools; (b) the elementary schools are in short supply of instructional materials; (c) teachers lack variety in their teaching methods and tend to teach for unrelated memorisation of facts; (d) no adequate selection process for early grade placement has been used.

(2) Once the students are admitted to the secondary schools the proportion of those successfully completing the full programme is small.

(3) Experience has shown that the teaching methods and instructional materials are not as they should be.

In September 1955 the academic secondary schools admitted 985 students to grade 9 which is the highest figure yet recorded. None the less it is known that the academic secondary schools could take more students if the middle schools were to supply them with enough qualified students. Again in order to satisfy the needs of the higher institutions the academic secondary schools have been admitting to their beginning classes students whose standards were below the average. During the past years they have been admitting 56% of those who passed the eigth grade general examination, thus falling into the second half of the distribution. The result has been that out of the 100 who were admitted to grade 9, 80 were enrolled in grade 10, 60 in grade 11, 45 in grade 12 and only 36 passed the secondary school leaving examination. It must be admitted therefore that since the secondary schools are boarding schools, the expenditure on the 2/3 of those students who do not qualify for college entrance must at least in part be regarded as waste.

It follows from the above analysis that if the need of the higher institutions and consequently of the secondary schools for middle school graduates is to be met the latter will have to be expanded. Again in order to increase the number of students retained in the secondary schools the teaching standard and the admission standard to the secondary schools should both be considerably raised.

Institutions of Higher Learning - These include the University College of Addis Ababa having the Faculties of Science and Arts and a secondary teacher training department; the Engineering College, the Building Institute, the Agricultural College and the Gondar Public Health Training College. Alltogether there are 7 institutions of higher learning. The Faculty of Science and Arts of University College Addis Ababa provides a four-year college programme. Of the rest some run incomplete courses and others do not as yet run the full college programme since they were recently established.

In 1955/56 the total student enrolment in the 7 institutions of higher learning was 345 of which 187 were in the first year, 91 in the second year, 49 in the third year and only 18 in the fourth year. These 18 students were all in the Faculty of Arts, University College. The structure of students' enrolment by grades does not, however, give us a correct picture of student promotion in the case of higher institutions. The Engineering College sends its students abroad after completion of a two-year course. The University College Faculty of Science sends its students abroad after completion of a three-year course. The Secondary Teacher Training Department of the University College and the Building College were only recently established. In 1955/56 the seven institutions together admitted 187 first-year students, though the capacity of these institutions would allow an annual intake of about 250. It will therefore take some time before their intake requirements are satisfied by the academic secondary schools. In addition to the seven institutions there are others which as a rule do not require the output of the academic secondary schools. These include the Law School of the University College which has graduated one class of 40 students and in 1956/57 is offering introductory classes in law to 100 students; the Theological College; and the Extension Classes of the University College enrolling 350 students in 1956/57, divided into lower and upper divisions. The former may be entered from secondary school level courses, while the latter offer college level courses and require the 12th grade leaving examination for entrance.

The Financing of Education

According to the present system nearly all elementary education in the provinces is financed from the proceeds [illegible] ucation Tax. Elementary education in Addis Ababa and the higher institutions are both financed from treasury funds. The Education Tax set up in 1947 is a tax based on the ownership of land. As the system works at present, owners of urban property do not contribute towards the cost of elementary education. There are several objections to this system of financing education:

(1) The Education Tax, depending as it does on land ownership and the fertility of land, yields an annual revenue which increases at a very slow rate. Since the growth of nearly all elementary education depends on the growth of this dedicated revenue, it is obvious that elementary education will not expand as rapidly as it should and, in consequence, a disparity between the lower and the upper levels of the government school system will be developed.

(2) An examination of the financial position of all provinces shows that some provinces are less favourably placed than others. Hence the system of financing education has created an inequality of educational opportunity among the provinces which will be more and more marked in future years.

(3) Urban property owners do not contribute to the cost of elementary education inspite of the fact that their children are the main beneficiaries since schools tend to be established in urban areas.

If this system of financing education is retained neither the controlled expansion of all the various divisions of the school system nor the distribution of schools on an adequate population basis will be achieved.For additional explanation reference is made to the Equalisation Plan put forward in the Ten-Year Programme.

Recent Trends and Main Targets for 1957- 61

An examination of the students' enrolment in the four divisions of the government schools shows that between 1952/53 and 1955/56 the total student population in all divisions has increased from 60 131 to 95 196, i.e. an overall increase of 58%. This is a remarkable growth within a period of four years. Althoug the total enrolment in all the four divisions has increased, the upper levels, including middle, secondary and institutions of higher learning, have increased more rapidly than the primary schools. In 1952/53 the shares of primary, middle, secondary and institutions of higher learning were 87.0%, 10.1%, 2.7% and 0.2% respectively. In 1955/56 the corresponding shares were 84.7%, 11.7%, 3.2%, and 0.4% respectively. That means within the four year period the middle schools and upper levels of the school system have been expanding more rapidly than the primary schools. If this trend continues, the middle schools will enrol 17 656 and the secondary schools 5 032 by 1960. It should be pointed out that this is on the whole a favourable trend. A total enrolment of 17 656 in the middle schools should be sufficient to supply the upper levels, but this will be the case if these students are enrolled in complete middle schools. Recent experience shows that the middle schools have been expanding in all the four grades 5,6,7 and 8. What is required is a controlled expansion of the middle schools; that is to say the expansion of the middle schools at the fifth grade level should be gradual and all the higher middle school grades should be allowed to expand rapidly till all the incomplete middle schools are completed.

The advance hitherto made in the sphere of educational development must be regarded as one of the most solid achievements of the post-liberation period. An analysis of the current situation of the government school system reveals, however, that the various levels of the school system, which are concerned with higher education, including middle, secondary and institutions of higher learning, suffer somewhat from a lack of balanced and co-ordinated growth. These defects of the educational system emanate from the lack of a clear identification of the needs and assessment of priorities and the pursuing of a policy of channelling the available resources to meet these needs in accordance with the assessed priorities.

The policy making body of the Ministry of Education has been aware of these defects of the government school system as it is organised at present. A committee was therefore set up by the Ministry of Education in order to investigate the existing conditions of the educational system and recommend measures which would overcome the present shortcomings. As a result the Committee has submitted a report in which it elaborates a detailed and comprehensive plan entitled "Ten-Year Programme for the Controlled Expansion of Ethiopian Education." The Committee found that:

(1) Insufficient attention had been given to a coordinated and systematic growth of the various levels of the government school system concerned with higher education. Detailed measures have been proposed in order to remedy this situation. In particular the problems of the middle and academic secondary schools have been carefully and ably analysed, and the proposed measures contained therein are very sound.

(2) The system of universal education offered at present is less than satisfactory and it has therefore suggested that a community-type of primary schools should be established, and that existing primary schools should be converted gradually into community schools.

(3) Owing to the dedicated nature of the funds which are devoted for the promotion of provincial education there has grown up among the provinces in the course of the years an inequality of opportunity for elementary education, i.e. primary and middle school education, which will be more and more marked with the passage of time. In order to achieve a fair measure of equality for elementary education, the Committee has proposed that the principle of earmarked revenue to finance provincial education be either wholly abandoned or that this revenue be supplemented by treasury funds.

An exemination of more recent data concerning the government school system emphasises the Committee's conclusion and suggests that the proposed measures to deal with the shortcomings contained in the ten-year programme are substantially sound. The Committee's treatment of the degree-level and technical-level institutions is, however, somewhat incomplete. The reason for this appears to be that the Committee did not have at the disposal estimates for the needs of degreed and professional people, as well as the needs for technicians of the Ethiopian Society. The needs will be growing progressively and will become more complex in future years.

In drawing up a development plan it is necessary in addition to the total man-power requirements to estimate the number of skilled people of all kinds and at all levels needed for the planned period 1957-61. On the basis of these estimates for skill requirements and taking into consideration the Ten-year Education Programme which deals with the period 1957-66, a more comprehensive five-year programme was elaborated for the advancement of education. In formulating such a programme, however, it is necessary to identify the needs and indicate the main objectives the Plan should embody. These objectives may be set out as follows:

(1) It is agreed that the two most important conditions of economic progress are the availability of capital and skill. It seems almost certain that the scarcity of the latter is the more acute. A complex plan which aims at the growth and diversification of the whole economy needs for its fulfilment a growing number of able personnel of diverse skills to man the various sectors of the economy. There is therefore a clear need to meet both present and future skill requirements of an expanding economy. Hence the necessity to appraise and assess the appropriateness and the adequacy of the established degree-level and technician-level institutions whose output will be employed in the various sectors of the economy.

(2) The institutions which are concerned with the final products in their effort to meet the growing needs of the Ethiopian economy and administration will place a growing demand for students upon the lower levels of the school system, including middle schools and academic secondary schools. Since all the school levels which deal with higher education are inter-dependent there is an obvious need to expand all levels of the school system in such a way as to avoid bottlenecks in any part of the system. The limited available resources should therefore be distributed among all levels in order to achieve a balanced growth of the whole edifice of higher education. Special factors which limit the growth of each and every level should be carefully assessed and measures taken to remove bottlenecks.

(3) There is a need to extend primary education to a growing number of children and to work out the most appropriate kind of primary schools for those who will not have the opportunity to continue their studies to the middle and secondary schools. In this sphere the limiting factors are teacher supply and financial support. Financial support for the extension of primary education will be limited for some time to come. Having regard to the size of the Government's budget and that portion of the budget which can reasonably be devoted to educational expansion it will be some time before every boy and girl of school-going age is able to attend the primary schools. The growth of primary education will therefore depend on the growth of the budgetary revenue which in turn depends on the growth of the national income. Secondly, the major part of the education budget will have to be devoted to the expansion of the institutions concerned with higher education including middle and secondary schools and institutions of higher learning, if the present and future needs for skilled personnel are to be met; more provision for higher education will mean less provision for primary education. Thirdly, since a large part of elementary education is financed out of the proceeds of a special kind of land tax, in which urban property is exempted, the funds for the extension of elementary education are limited and unequally borne. Should this system of financing elementary education be retained the obvious solution is to extend the cost of elementary education to owners of urban property. Fourthly, provincial funds depending as they do on land yields increase only very slowly, thus hampering the progressive expansion of elementary education. This constitutes the most important objection against the present system of financing elementary education in the provinces.

Institutions of Higher Learning

In working out a coordinated and balanced programme for the expansion of education it is preferable to begin with the upper levels of the existing institutions. In the case of institutions solely concerned with higher education it is the needs of the upper levels which determine the growth of the lower levels. It is therefore necessary to estimate the needs and outputs of the college level and technical level institutions for the period 1957-61 in order to determine to what extent academic secondary schools and middle schools should be expanded. The extent and type of both degree and technical level institutions will, however, be determined by the present and future needs of the economy. On the basis of recent studies and of the development programme for various sectors an estimate of present and future needs for degreed personnel has been made as shown in the following tables. The sectors are classified into five groups according to the kind of skill required, while the institutions are classified into five groups according to the type of skill they impart so that a close correlation between output and needs can be established from tables below:

Estimated Needs for Degreed People of Higher Learning by Sectors

	Estimated Number in 1956	Additional Requirement for 1957-61
A Administration	400	150 - 200
Banks	53	30 - 40
Commerce	50	20 - 30
Total	503	200 - 270
B Manufacturing Industry	20	50 - 70
Mining	10	20 - 30
Electricity	10	15 - 20
Transport	25	30 - 40
Construction	20	40 - 50
Total	85	155 - 210
C Agriculture and Forestry	25	80 - 100
D Education	200	80 - 120
E Health	152	85 - 100
GRAND TOTAL	965	600 - 800

The estimated number of degreed and professional people employed in the various sectors of economic and social life were 965 in 1956, of whom about 2/3 are estimated to be foreigners. The total additional estimated needs for the period 1957-61 are between 600-800. Of these 200-270 are needed for group

A which includes administration, banking and commerce, requiring a training in the liberal arts; 155-210 will be needed for group B which includes manufacturing industry, mining, electricity, transport and construction, requiring a training in all types of engineering subjects, and the rest are needed for agriculture and forestry, health and education.

The above estimates represent the additional needs for qualified professional personnel if programmes elaborated for various sectors of the economy are to be carried out smoothly. Given these estimates of the total and structural needs of the economy it is necessary to examine whether these requirements will be met during the next five years. An estimate of the output of degree-level institutions based on the present enrolment is shown in the following table:

Estimated Capacity and Output of Higher Learning Institutions

	Capacity	Total Enrolment in 1956-57	Estimated Output for 1956-61
A Faculty of Arts (U.C.). .	120 1)	129	49
B Engineering College . . .	200	63	110
Faculty of Science (U.C.)	110 2)	55	23
Building Institute . . .	200	30	72
Total	510	148	205
C Agricultural College	200	86	128
D Secondary Teacher Training	125	32	58
GRAND TOTAL	955	395	440

1) 250 in 1958.

2) 150 in 1958.

The degree level institutions include the Faculty of Arts (U.C.) which runs a four-year course in the liberal arts, leading to a bachelor degree, the Engineering College, the Faculty of Science (U.C.) and the Building Institute which offer courses in a limited number of engineering subjects, the Agricultural College and the Secondary Teacher Training Department (U.C.). The Faculty of Science (U.C.) also has a department of biology leading to a bachelor's degree. The total estimated student capacity of these institutions is 955 and the total enrolment in 1956/57 was only 395. On the basis of the present enrolment and the fact that some of these institutions send their students abroad for at least 3 years after completion of the courses offered at home, the total output of these institutions for the planned period is estimated to be about 440. There are, however, more than 400 students abroad of which at least 200 are expected to return home with faculty degrees within the next five years. Hence the output of all these institutions and foreign study will be 640 students who will have had faculty degrees. The above observations have shown that the total estimated requirement for the planned period is between 600 and 800. Therefore it seems likely that the total needs will have been covered by 1961. Planned expansion of education should moreover take into account not only the total requirements of the economy but also the structural needs of each sector.

A comparison between the above tables shows that the needs for engineers and agriculturists would be met, whereas that of doctors, teachers and those who have a training in the liberal arts will not be covered by 1961. It is hoped that a number of the degreed personnel available in the next five years will acquire the necessary on-the-job experience and proficiency to be able to replace some foreign experts. A comparison between the total student enrolment of 395 and the capacity of already established institutions of 955 makes it clear that these institutions do not require any further expansion within the immediate future for they are already working at less than full capacity. What is required in this sphere is the improvement of curricula, teaching materials and methods of teaching in order to raise the standard of these institutions. In future the institutions of higher learning will admit more students every year to their beginning classes. With increasing numbers seeking admission every year it will be possible to raise admission standard with the main objective of making these institutions comparable to the best institutions in the world. In this respect close contact and cooperation with British and American universities will be indispensable. The present policy of sending students abroad should at the same time be continued. In particular the best students should be sent abroad for some time to come for specialist training and post-graduate work.

Special Secondary Schools

The technical level institutions which are in operation are the specialised non-academic secondary schools. The degree of training and the differentiation of skill that these institutions will have to produce should be primarily dictated by the present and future needs of the Ethiopian Society. With this in view an estimate has been made of the number of technicians of all kinds needed to carry out the Five-Year Plan.

Estimated Needs of Technicians by Sectors

	Estimated Number in 1956	Additional Requirement for 1957-61
A Administration	1 500	400 - 500
Banks	220	100 - 150
Commerce	1 000	150 - 200
Total	2 720	650 - 850
B Manufacturing Industry	400	600 - 800
Mining	100	200 - 300
Electricity	120	150 - 200
Transport	55	100 - 150
Construction	40	100 - 150
Total	715	1 150 -1600
C Agriculture and Forestry	90	400 - 500
D Education	650	800 -1000
E Health	368	300 - 400
GRAND TOTAL	4 543	3 300 -4350

It is estimated that the number of technicians employed in 1956 was 4 543. The estimated total additional requirements for the years 1957-61 are between 3 300 and 4 350. Of these 650 to 850 will be needed for group A which include administration, banking and commerce, 1 150 to 1 600 will be needed for manufacturing industry, mining, electricity, transport and construction, and the rest for agriculture, health and education. If the minimum total needs are to be covered the technician level institutions will have to produce at the rate of 660 students per year for the next five years. In view of these needs it is necessary to estimate the output of the existing technician level institutions. The estimate of the number of graduates from these institutions for the period 1957-61 are presented in the next table:

Estimated Output of Special Secondary Schools for 1957-61

	Total Enrolment in 1955/56	Estimated Output for 1957-61
A Commercial School	224	459
B Technical School	215	270
C Vocational Trade School	-	470
D Agricultural Secondary Schools	131	287
E Middle Schools Teacher Programmes	456	571
F Nurses Schools	105	170
G Public Health Training College, Gondar.[1] . . .	55	91
TOTAL	1 186	2 318

[1] Community nurses in Gondar are listed under Nurses Schools (F).

The total estimated output of technicians for the period 1957-61 from the above-mentioned institutions is 2 318 of which 459 will be from the Commercial School, 270 from the Technical School, 470 from the Vocational Trade School, 571 from the Teacher Training Programmes for middle schools, 287 from Agricultural Secondary Schools, 170 from the Nurses Training Schools and 91 from the Public Health Centre in Gondar.

The total estimated need of technicians for the period 1957-61 is between 3 300 and 4 350. The above figures show that the output of the home institutions is 2 318. It is also expected that about 200 students will return from abroad having completed their studies as technicians. Of these 200 students, about 100 are expected to be engineering technicians. Thus the home institutions together with foreign study will produce 2 500 technicians, thus falling short of the minimum requirement by about 800 technicians. The output of technicians will hence seriously lag behind overall requirements. This shortage of technicians will be felt by all sectors and in particular by:

(1) Education;

(2) The sectors which require engineering technicians such as manufacturing industry, electricity, construction, etc.

In other words it is the output of Technical School, the Vocational Trade School and Teacher Training Centres which will be lagging behind the requirements. Whereas the minimum needs for middle teachers and technical graduates are 800 and 1 150 respectively, the corresponding outputs of the institutions together with foreign study will be 571 and 840 respectively. The shortage of technicians will therefore be more acute than that of degreed personnel.

By 1961 the annual needs for commercial, banking and administrative technicians will be about 160. In order to meet this requirement it will be necessary to expand the Commercial School and extend the range of courses it offers. An intensive inservice training in commercial and administrative subjects should furthermore be organised to raise the proficiency of people employed in the administration and the public services. The expansion of the Commercial School will contribute directly to meeting the additional requirements. The training of people already employed, however, will only do so indirectly by raising their efficiency. At any rate an immediate rapid expansion of the Commercial School does not seem to be feasible. At present the school admits 100 first-year students. This means that about 80 commercial graduates may be expected to graduate annually by the end of the planned period which will be half of the requirements. Thus to meet the needs for commercial and administrative skills of this type it will be necessary to double the intake capacity of the school. Apart from financial and other considerations the mere scarcity of students qualified for admission will prevent its rapid expansion. It is therefore proposed that the school should be expanded gradually as soon as increasing numbers qualified for admission are available. At the same time inservice training of all types should be established. Some such institutions have already been started and others are under consideration. In this sphere the main concern of the education authorities should be to elaborate curricula of these institutions to avoid overlapping. The available foreign professional staff engaged in the administration and the qualified Ethiopian personnel should be used to teach in these schools.

The deficits that will be created in the next five years will be greater for technical skill than commercial and administrative skills. By the end of 1961 the minimum needs for technical graduates will be about 280 yearly. At present the Technical School and the Vocation Trade School together admit about 180 students to their beginning classes, and by 1960 their annual output may be expected to reach 150. The immediate expansion of these schools will be governed by the same considerations which applied to the Commercial School. What is needed in this sphere is a gradual expansion as soon as increasing numbers of candidates qualified for admission are available, as well as the establishment of all types of inservice technical training. Technical schools such as the Civil Aviation and Telecommunication schools already exist. The one disadvantage is that these institutions are run by Government Departments other than the Ministry of Education. The Educational authorities should be in a position to examine the programmes of these schools and coordinate their activities with technical programmes as a whole in order to avoid overlapping, and be able to meet the needs of the various specific sectors of the economy. An intensive effort should therefore be made to expand inservice technical education as soon as it is feasible. It has also been proposed by the long term Committee of the Ministry of Education that a Technical Institute offering two-year post-secondary training should be opened. The students will be recruited both from the graduates of the Technical School and the academic secondary schools. Whilst recognizing the need for highly trained technicians the gap behind the needs for and the outputs of technicians will be wider if the Tedhnical Institute recruits all the graduates of the Technical School. Nor does it appear that there will be sufficient recruits from the academic secondary school to warrant the immediate establishment of the Technical Institute. Having regard to the acute shortage of technicians of all types it is recommended that careful research should be undertaken to study the problems of education at the technician level, and a programme drawn with the objective of expanding existing institutions and creating new ones within the available resources during the planned period for the purpose of alleviating the acute requirements of the expanding economy.

The Academic Secondary Schools

The total estimated annual intake capacity of the already established institutions of higher learning will be about 500 students by the end of the planned period of which 280 will be the intake of the degree level institutions. The rest will be the needs for the institutions which require secondary graduates. These include the Public Health College at Gondar, military training institutions and institutions now in the preliminary and planning stage. Whereas the degree level institutions need 280 annually they could only take, in 1956,130 graduates from the academic secondary schools. The academic secondary schools in fact do not produce enough graduates to meet the needs of the institutions of higher learning. The reason for this gap between the actual output of the academic secondary schools and the needs of higher institutions has been fully discussed in previous pages. It is mainly the lack of enough qualified students that enter the secondary schools and that can complete all the four grades with a relatively small percentage of failures. In fact what has been happening during the past years is that these schools have been admitting to grade 9 candidates of which a relatively small number were able to complete all the four grades. Out of a small number of grade 8 students, 56% were being admitted and in consequence low standards prevailed. What is needed to solve the basic problem of the academic secondary schools is to expand the middle schools and in this way increasing the enrolment in grade 8 so that out of a big number the best 25% could be admitted to the secondary schools. If this is done, a high percentage of those that are admitted can complete the secondary schools successfully, and thus the needs of the higher institutions will be gradually met.

This basic proposal which is also contained in the "Report for the Controlled Expansion of Ethiopian Education" might be better appreciated from the following table:

Need and Output of Academic Secondary Schools

	1957	1958	1959	1960	1961
Grade 8 Enrolment	2 375	2 250	2 250	2 800	3 200
Selection Index	33	35	35	25	21
Grade 9 Entrants	784	785	788	700	675
Retention Index	60	65	70	75	80
Total Enrolment Grades 9-12 . .	2 110	2 350	2 400	2 400	2 500
Number Qualifying for College Entrance	130	202	345	428	470

The above table shows that if grade 8 students increase from 2 375 to 3 200 during the planned period, a decreasing selection index can be applied starting from 33% in 1957 to 21% in 1961, in order to get a constant number of grade 9 entrants without straining the present intake capacity of the secondary schools. To achieve a total enrolment of 2 500 students additional dormitory space should, however, be provided. It follows from this that the quality of grade 9 entrants will improve and the retention index, i.e. the proportion of those who can successfully complete all the four grades of the secondary schools, will increase and in consequence the needs of the higher institutions would be fully met by the end of the planned period.

Middle Schools

We have seen that if the needs of the secondary schools and the needs of the higher institutions are to be fully met, grade 8 will have to enrol about 3 200 students of which about 700 will be admitted annually to the academic secondary schools. It is expected that the rest will satisfy the needs of the non-academic secondary schools and the remaining secondary level institutions which offer courses for one or two years. The present enrolment in grade 8 in 1955/56, however, is 1 896. In order that grade 8 enrolment should reach the required figure of 3 200 it is necessary to expand the enrolment in grades 6, 7 and 8, i.e. to complete the incomplete middle schools. There are now 185 class-room units in grade 5, 139 in grade 6, 117 in grade 7, and only 94 in grade 8. If the incomplete middle schools are to be completed, 46 grade 9, 98 grade 7 and 91 grade 8 classroom units must be made available during the period 1957-61. It is known, however, that the rate of expansion of the middle schools is not limited by the lack of building facilities but by the lack of teacher supply. To meet this need several teacher training programmes have already been established. In addition to completing the middle schools it will be desirable to build middle schools in about 20 Awrajas that at present do not have them so that there may be at least one middle school for each Awraja.

In order to complete the incomplete middle schools, to build new ones, and to replace teachers who annually leave the middle schools, not less than 650 teachers are required for the next five years. It is estimated that the output of the existing teacher training institutions for the middle schools will produce 571 middle school teachers within the period 1957-61. This implies that the need for middle school teachers will not be met. It is possible, however, that the middle school programme can be successfully completed by 1961, provided that the Educational Authorities make a determined effort to reduce the annual loss of teachers through resignation,by making the teaching profession more attractive.

Primary and Community Schools

In this sphere the main objectives should be (a) to provide additional classroom units with the aim of achieving a class-size of 50 pupils,(b) to complete all incomplete primary schools in order to provide pupils with all necessary facilities to continue up to the fourth grade without either interrupting their studies or repeating a class for lack of higher grades into which to advance. (c) to step up the output of primary school teachers and devise policies that would make the teaching profession more attractive with the object of reducing the high rate of teacher outflow from the schools and (d) to lay firm foundations for spreading primary education to children in all parts of the country.

In order to achieve these objectives it will be necessary to increase primary school enrollment from 80 486 in 1955/56 to 211 200 by 1961. This would mean increasing enrollment and attaining a distribution in grades 1,2, 3,4 of 59.7 thousand, 54.7; 49.7 and 47.1 thousand respectively by 1961.This will enable not only a more economical distribution of pupils by grades but also achieve an annual average increase of 3 750 in enrollments at the first grade level with comparable enrollments in grades 1,2,3, and 4. To implement this programme an additional 2 785 class-room units and 3 800 teachers would be required. The principal limiting factor in carrying out the primary school programme is teacher supply. The average annual output of the present teacher training programmes is only 320 per year for the duration of the planned period. This will enable the carrying out of only 1/3 of the primary education programme.If the teacher output is trebled the programme would reach near its completion by 1961.

To spread basic education throughout the country the Ministry of Education has conceived a Community School Programme. The objective of this programme is to establish community schools that impart the first 4 grades of primary education to their students and also serve as a vehicle for providing basic education to adult students. It is eventually intended to convert all primary schools into community schools. For a more detailed consideration of the community schools reference is made to "Ten-Year Programme for the Controled Expansion of Ethiopian Education." In order to implement the preliminary stages of this programme the Ministry of Education has established a Community School Teacher Training Programme. The Community School Programme should play its part in achieving the primary education programme outlined above.

Finance

The implementation of the Education Programme which has been elaborated for the period of 1957-61 will involve a total expenditure of about Eth.$ 126.4 million. Of this 45 million must be devoted for the promotion of provincial elementary education which includes nearly the whole of community, primary and middle school programmes; 81.4 million must be devoted for national education which includes secondary level institutions, the Addis Ababa elementary schools, the institutions of higher learning, and foreign schoolarships. The total regular expenditures for 1956, according to data of the Ministry of Education, were Eth.$ 18.6 million, of which Eth.$ 6.8 million were devoted for provincial education and Eth.$ 11.8 million for national education.

The total additional investment for the five years is estimated to be about Eth.$ 12 million, the major part of which will be devoted for secondary and higher education. The additional total expenditures above present Ministry's of Education expenditure needed for 1957-61 which will be Eth.$ 32.8 million. Of these Eth.$ 10.4 million will be the additional expenditure to finance provincial education, and Eth.$ 22.4 million the additional sum required to finance the schools and higher institutions which are at present financed out of treasury funds. It must be noted that the additional sum required to finance national education of Eth.$ 22.4 million presents no special problem. On the other hand the deficit of 10.4 million, which will be created if the programmes for all aspects of provincial elementary education are to be fulfilled, will create considerable difficulties since the expected revenue from the education tax will be more or less constant for the five years. The deficit of Eth.$ 10.4 million must therefore be covered out of treasury funds.

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PART IV

POLICE AND ADMINISTRATION

Chapter 18

CHARACTER AND SYSTEM OF PLANNING

The basic purpose of economic planning can be defined as determining and directing the use of resources in accordance with established economic and social objectives. The concrete objectives of a development plan as well as the methods and techniques employed in the planning and implementation of the Plan depend on the specific conditions of the particular country concerned. The objectives and method of the Plan is therefore framed as a result of a study of economy and social conditions in Ethiopia.

As far as the concept of the Plan is concerned it can be said that it is in accordance with the social and political structure of Ethiopia as laid down in the Constitution. Taking as its starting point the existing economic and political structure, the Plan provides for the mobilisation of all creative factors in Ethiopian society: the Government and other public institutions, private enterpreneurs and the population generally. Room is also left for the further participation of foreign capital which has an important role to play in economic development. With economic development and the gradual advance of Ethiopian society the system of planning will have to be modified and improved. Experience gained during the carrying out of the Plan will be valuable in planning for the future.

The Plan is mainly concentrated on economic development though this also depends to a large extent upon non-economic factors. Moreover in allocating financial resources adequate funds have to be put aside for the development of such non-economic services as education, public health, public administration, etc. The framework for the future development of these sectors has thus also to be considered. A more extensive survey of the future development of education has been made possible by the existence of the already formulated 10-year programme. The elaboration of a long-term public health programme is at present under way and detailed plans for the future development of other non-economic sectors should also be formulated in separate programmes.

One of the basic prerequisites for planning is sufficient knowledge of available resources, particularly man-power, natural resources and the possibilities of domestic capital formation. Available data and investigations so far completed have made it possible to work out approximate estimates of resources, but as the statistical and other related services are in their infancy it was not possible to ascertain precisely all the facts relevant for long-term planning. This was particularly the case with ores and mineral resources upon which the development of a mining and metallurgy industry would depend. The proposed development of the public services should, however, make possible the clarification of many problems even within the planned period. Certain parts of the Plan would probably have to be modified in accordance with new facts and the results of research. A certain degree of flexibility in the Plan is therefore required.

Private property and initiative which play an important role in the greater part of the Ethiopian economy require adequate economic planning. Development planning as far as this sector of the economy is concerned cannot be obligatory as it is in the public sector. It is therefore confined to determining general objectives of development, to formulating the policy by which private initiative could be directed towards these aims and to forecasting expected results. Targets which refer to the public sector, to the mobilisation and allocation of public menas, Government activity and the work of public services are, however, of a much more definite character. The tasks and activity of the public sector in administration and in economic and other services should therefore be coordinated with the provisions of the Plan.

On account of its long-term nature economic planning can only be successful if developments over long periods are kept in view. The planned period should not be so long that hypotheses and estimates of future trends lose the required degree of certainty, but should be sufficiently long to make possible the carrying out of the desired aims and measures of development policy as well as the achievement of significant results within the period. In the present conditions of the country a five-year planned period appears most suitable though the specific character of some branches of the economy requires the formulation of longer term programmes. This is particularly the case with transport, electric-power and forestry, where the general lines for 10-20 years development are charted and the Five-Year Plan is prepared in accordance with these long-term perspectives. Since long-term development for these sectors has been determined in outline only, it will be necessary in the course of the planned period to elaborate detailed programmes. This is also the case for water economy as a whole. A long-term perspective in these fields is a necessary prerequisite for the preparation and execution of specific projects and schemes.

The Five-Year Plan on the other hand appears an insufficient instrument for undertaking direct and concrete measures of day to day economic policy which should in fact be aimed at carrying the Plan into practice. The Plan cannot embody sufficiently detailed tasks to make possible their coordination with the daily activities of the various administrative authorities and other organisations. It is therefore necessary to work out annual plans providing concrete tasks for the public sector, suggesting organizationas, economic policy and other measures to be undertaken within the year, and forecasting the volume, source and distribution of public funds, the amount of public investment and general economic trends. The annual plans should be worked out within the general frame of the Plan, taking into account experience gained in the particular phase in the realisation of the Plan. Another advantage of annual plans is the possibility of adjusting them in accordance with circumstances which may change within the period of the Plan.

Reference was made in the chapter on investments to a "suplementary programme" to be carried out if larger foreign financial funds are obtained, The main features of this programme have been elaborated[1]; It should be possible if circumstances are favourable to work out a detailed and definite additional programme. On the other hand, it is possible that domestic or foreign funds may fall somewhat below expectations. In that case investments should be reduced in those sectors where a reduction would inflict the least damage to the proposed rate and direction of development, both in the planned period and subsequent years. All measures and activities of the authorities should, however, be directed towards securing the projected volume of domestic and foreign financial capital as it is one of the main factors upon which the proposed acceleration of the economic and other development of the country depends.

The planned economy requires periodical analyses to check the implementation of the Plan both in individual sectors and in the economy as a whole. In order to accomplish this, the Statistical Service should be expanded and improved. Only with a well-organised statistical service does it become possible to keep under review economic development at short-term intervals, to discover and analyse undesirable and harmful occurences and to adopt adequate measures in proper time. On the basis of available statistical material and other data the departments and services concerned should draw up periodical reports on the implementation of the Plan and the problems met in their fields, while the planning authority should work out surveys of overall economic trends and supervise the execution of the Plan as a whole. Such periodical reports and analyses would also serve as a basis for elaboration of annual plans.

Community development programmes are considered in a separate chapter. Here it is intended only to point out the importance of these programmes as essential instruments for the realisation of the Plan, particularly in those sectors where local authorities and the population at large must play an active part, that is to say in agriculture, cottage industry and handicrafts, education and public health. Plans for individual administrative units (provinces, districts, etc.) would be very useful. They could embrace and link together the local authorities, or other local organisations, entrepreneurs and the population at large, and enable them to canalise their activities to the objectives of the Plan. However, the extent of local programmes will depend upon existing possibilities and conditions which will probably be rather limited in the first five years.

The main objectives, promises and expected results of the Plan should be explained to public institutions and organisations, economic and other interested groups and to the general public. This is of great importance for the mobilisation of all those whose understanding and active support are essential for the realisation of the Plan. To that end systematic use should be made of various means of publicity: publications, press, radio, lectures, exhibitions, etc.

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1) A tentative list of Plan "B" projects is included in the Appendix.

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Chapter 19

AIMS AND METHODS OF ECONOMIC POLICY

The basic principles and methods of economic policy which are at present being applied by the Ethiopian Government may be expected to create favourable conditions for rapid economic development. Results attained in the last few years offer ample evidence of the success of the present policy. There is therefore no need to initiate an altogether new economic policy, for the groundwork is already laid, or to abandon the governing principles of the present policy. The Plan, however, makes it possible to assess and re-examine the efficiency of existing instruments and methods of economic policy in the light of determined long-term development targets. Furthermore certain instruments of present policy must be adapted to the requirements of the Plan. The appraisal and adaptation of measures of economic policy to the requirements of the Plan should be considered a permanent task, the more so as it was not possible during the elaboration of the Plan to foresee all problems which would arise in the course of its execution. Detailed and concrete means of solving such problems could not be worked out in advance, nor could exhaustive and detailed recommendations be made for all aspects of future economic policy. The Plan was consequently in the main limited to basic principles, aims and methods of economic policy.

Main Principles of General Economic Policy

The detailed economic policy for the planned period should be formulated on the basis of the following principles:

1) The Government should play an active role in the development of the country, particularly in creating basic facilities required for speedy development, such as transport, communications, power, public services, education, health, etc. The Government should also be active in those sectors where public interest requires it, as well as where private enterprise does not show sufficient initiative or efficacy. To play its part successfully the Government should be supported by an administration and other public services capable of carrying out their functions efficiently.

2) Private initiative should be further fostered and developed by various measures of economic policy. The economic activity of private persons should also be co-ordinated with the principal aims of the Plan. Investments in productive activities should be encouraged by various policy measures and by developing basic facilities such as transport and power, etc.

3) Private and public foreign investments in various branches of the economy should be further encouraged by creating favourable conditions. A better basis for foreign capital investment would be achieved by developing natural resources and basic facilities, by expanding the domestic market and by maintaining a favourable balance of payments.

4) The necessary degree of economic stability and security should be maintained by monetary, credit and fiscal policy. To cope efficiently with inflationary tendencies which are known to occur in the course of rapid economic expansion, it would be of great importance to obtain the envisaged volume of foreign loans and aid.

5) To meet the growing needs of public administration and to carry out budgetary investments it will be necessary to increase the volume of budgetary revenue. This could be accomplished by adequate measures of fiscal policy in accordance with growing economic activity and increasing national income. Voluntary savings should be given all possible incentives and be directed towards fulfilling the aims of the Plan. The formation of domestic capital on as large a scale as possible should be fostered by improving credit facilities.

6) Priority in investment policy should be given to improving the transport system which is an essential prerequisite for the extension of the exchange economy.

7) Having in view the dominant role of agriculture in the economic activity of the country and the extensive opportunities for its development, measures should be undertaken to promote agriculture. The rural population should be instructed and encouraged to adopt more efficient methods of work, and better general conditions should be created for the development of the rural economy (roads, water-supply, public health, education etc.).

8) Further industrial expansion should be secured by making better use of existing capacities, by enlarging and modernising existing enterprises and by constructing new ones. The main aims of manufacturing industry in the next five years should be to harness local raw materials and to satisfy the demands of the domestic market.

9) It is important to develop handicrafts, cottage and small-scale industries. A relatively large number of workers are engaged in handicraft. Handicrafts, cottage and small-scale industry are in many cases the most significant suppliers of the many small and remote markets. In this sphere it is possible to attain a substantial and direct increase of production and income with only a small amount of investment. Hence more attention and capital should be devoted to it.

10) Steps should be taken to expand foreign trade. The principles of international division of labour based on the utilisation of most profitable opportunities, as well as the principle of international economic cooperation, should remain an integral part of future economic policy. These principles should not, however, exclude a reasonable protection of national industry, particularly in its first stage of development; certain measures should be taken to regulate import and export in accordance with the general needs of economic development.

11) Economic development depends to a great extent upon the improvement of education and health standards. The Plan envisages a significant increase in the amount allocated for development in these sectors.

In the light of the above principles it is possible to reconsider various aspects of economic policy, such as fiscal and credit policy, balance of payments and customs policy.

Fiscal Policy

Estimates of budgetary revenues for the planned period are discussed in Chapter 6. According to these estimates ordinary revenues should be increased from Eth.$ 114 million in 1956 to Eth.$ 167 million in 1961, i.e. by about 46%. The role of fiscal policy is not, however, confined to increasing the Government's income. To achieve rapid economic development, fiscal policy should have two functions: first, it must induce a higher rate of internal saving and promote the formation of national capital; second, it should to a greater extent become an instrument of general development policy, offering more incentives to some activities and impeding others, combating inflation and influencing the net national expenditure, in accordance with the requirements of the Plan. The system of fiscal policy in operation in Ethiopia already incorporates certain elements of general economic policy. The Plan should make it possible to develop fiscal policy more rigorously as an integral part of development policy.

Direct taxation is at present insufficiently levied and does not keep pace with the estimated income of the population. In 1950 direct taxes accounted for 22% of total budgetary revenue. Since then, however, it has remained at a more or less static level, although income, particularly monetary income, has increased considerably. The provisions for direct taxation contained in the Decree No.19 of 1956 represent a significant step in the direction of a more efficient direct taxation. A substantial increase in direct taxes would therefore be achieved. The share of direct taxes in the total ordinary revenue by 1961 is expected to reach about 27%. In order to develop further the system of direct taxation it would be necessary to elaborate a more detailed system of tax concessions and incentives. Detailed provisions for tax exemptions should protect new enterprises in their first years of operation. These provisions should determine which enterprises qualify for exemption and to what extent, thus making it possible to stimulate the development of those branches of industry which are most useful to the economy. In order to encourage reinvestment of profits in industry legal provision should be made for tax exemption of a proportion of income that is reinvested.

The main obstacle to adequate land taxation is the lack of a land register; all efforts should therefore be concentrated on its introduction and extension. In the next five years it will be impossible to introduce any large-scale reform of land taxation. The compilation of the land register would make possible a more thorough policy of direct taxes in agriculture which should be co-ordinated with the aims of overall agricultural policy.

The existing system of indirect taxation on the whole satisfies present needs, particularly from the purely fiscal standpoint. Further economic development, especially the expansion of domestic industry, will enable and require increased and more refined indirect taxation designed to promote economic development in the desired direction. Instead of a few general types and rates of indirect taxes the need will arise for a more detailed system of selective sales taxes. Lower rates should apply to the principal consumption articles and raw materials, as well as those branches of industry which need special incentives. A higher rate should be fixed for luxury goods. Indirect higher taxation of luxury goods, which represents a tax on the higher income groups, could to some extent act as a substitute for direct taxation which often involves technical and administrative difficulties, such as in the assessment of the amount to be paid. At the same time the negative consequences on the development of voluntary saving, usually caused by too high direct taxation, could be avoided.

Credit Policy

Considerable attention is devoted in the Plan to stimulating and advancing voluntary savings as well as fiscal saving. Credit policy should provide incentives for voluntary saving which should be an instrument of general economic policy designed to influence investment and supply the economy with much needed credits. Systematic measures will have to be introduced to increase domestic saving and credits in order to attain the estimated volume of private saving and bank credits required in the Plan.

The difficulties and problems of promoting voluntary saving and establishing a credit system are similar to those in other underdeveloped countries. The level of saving and particularly of deposit saving is low, whilst realised saving goes primarily into non-productive investments. The credit and capital market is very narrow and restrictive. Such a situation hinders rapid development. The main deficiencies of the present credit system may be summarised as follows:

- The banking system is not sufficiently developed to meet the present needs of the economy.

- The restrictive credit policy with its limited volume of credit and relatively high interest rates does not sufficiently encourage productive investments.

- Incentives and facilities for saving are very limited and private bank deposits are below capacity. Money hoarding is still widespread. Moreover money is often not productively spent.

- The absence of a domestic capital market and the almost non-existence of public and private securities and bonds have prevented the full mobilisation of potential saving and its more productive use.

The deficiencies in the credit system listed above emphasise the importance and extent of the measures which have to be undertaken.

Banking System -Industrial and commercial enterprises are beginning to encounter certain difficulties due to the absence of institutions dealing with short-term credits and short-term financial operations. Recent economic developments have emphasised the need for commercial banks. They will become more and more necessary as the monetary economy develops.

The principal role of long-term financing of the economy belongs to the Development Bank. It is therefore essential for the execution of the Plan that the Development Bank be an active and efficient institution.

The primary role of the State Bank should be to issue banknotes, to control money circulation and credits and to conduct foreign exchange and discount operations. To avoid distracting its attention from these tasks the long-term financing of the economy could be left to the Development Bank.

Banking institutions in regional centres should be enlarged and rendered more efficient so that they can finance local trade, small scale industry, handicrafts and agriculture, mobilise local saving, promote financial transactions and stimulate general development in their regions.

The raising of agricultural credits is a special problem. For the moment it is perhaps too early to consider specialised institutions for rural saving which have special features of their own. Towards the end of the planned period, however, the development of the monetary economy in agriculture will necessitate the establishment of a Central Agricultural Bank with branches in the larger agricultural centres.

Long-term and Short-term Credit - During the planned period about Eth.$ 44 million should be made available as long-term loans from banks, and a more flexible and extensive short-term credit policy would also be needed. In this connection consideration should be given to the available sources of investment funds and their mobilisation. To secure the volume of credits required by the Plan all possible measures should be explored, such as the allocation of funds from the budget to the Development Bank for long-term financing; it should be compulsory to deposit certain long-term funds with the Development Bank which should also issue securities and bonds; lottery schemes should be introduced; private savings and the collection of private deposits should be encouraged, etc.

The Plan should make it possible to coordinate the whole policy and methods of long-term and short-term financing in accordance with its objectives. Long-term credits could be advantageously offered for certain specific projects envisaged by the Plan, such as the establishment of modern agricultural and coffee estates, cotton and vegetable plantations, specific projects in manufacturing industry, small-scale and cottage industry projects, etc. By introducing different interest rates and conditions of repayment, investments could be successfully directed into desirable spheres. Private saving could be increased by combining different shares of borrowers' capital with credit. In expanding short-term credits and facilities for business operations, the introduction of draft, like a proved and efficient credit instrument, would be of particular significance.

Promotion of Bank Deposits -Evene the present level of monetary personal income particularly of the urban population offers a good opportunity for increasing the volume of saving deposits. The monetary income of the population in 1954 is estimated at Eth.$ 570 million and is expected by 1961 to reach about Eth.$ 760 million. These figures indicate the possibility of increased private bank deposits which can be used for economic development.The cultivation of the saving habit of the population is a slow process but it is of such importance that campaigns to that end should be launched as soon as possible. In this connection incentives should be introduced and facilities for deposit saving developed. Favourable climate for greater saving deposits could be produced by fulfilling the following conditions:

a) Adopting an economic policy aimed at economic and financial stability, avoiding inflation or keeping it within reasonable limits;

b) Extending bank facilities for saving and making them accessible to increasing numbers of small savers and in particular by introducing postal saving,local banks,various forms of rural saving,etc.

c) Creating attractive conditions for increased savings by special tax exemptions and other concessions.

d) Inaugurating a public campaign for increased saving, in friendly societies (Ekoobs), schools, public institutions, etc.

Organisation of the Domestic Security Market -In order to mobilise small saving it would be useful to introduce or increase the issuing of various kinds of securities and bonds. Having a small nominal value, attractive interest rates and a simple system of circulation and cashing, such securities could be attractive to a great number of people. In this connection the issuing of different types of government securities should be considered in due time, as well as the issuing of bonds by the Development Bank, commercial banks and other institutions. The selling of government shares in state enterprises of mixed ownership, the launching of lottery schemes, etc., should also be practised.

Balance of Payments and Customs Policy

Trade and payment agreements, which should be concluded with foreign countries could be very efficient instruments of foreign trade policy aiming at increased exports to existing and new markets, reducing or at least preventing further enlargement of the trade deficit with particular countries in Asia and Europe, assuring the import of goods essential for development and both promoting and broadening economic co-operation with various countries in other fields than trade.

Measures of economic policy should be directed towards the objective of increasing exports by making full use of the agricultural potential and enabling increased imports to be covered as much as possible by increased exports. Measures should also be undertaken to diversify exports. The expected expansion in exports, both in present products and in new commodities will entail gradual and adequate adjustments in the foreign exchange system. The present foreign exchange regulations, particularly concerning non-essential products and those which make up small percentages in total exports, should be made more flexible for the sake of encouraging the increase and diversification of exports. The present regulations concerning compulsory selling of foreign exchange derived from exports to the State Bank should be maintained in force. Within the measures for promotion exports adjustments should be made in export duties and in freight rates. Attention should also be paid to the improvement of the quality of exported goods.

As regards import attention should be concentrated on the following problems. To assure in the first place the import of goods essential for development which comprise capital goods and goods in process. Tariff policy should also be adjusted to facilitate these imports. With regard to the import of consumer goods, tariff policy should be directed towards protection of home industries, especially new enterprises. Customs and foreign exchange policy should be to prevent or limit the import of consumer goods when a reasonable level of imports is exceeded, involving a considerable deficit in the balance of trade and payments.

In order to maintain a favourable balance of payments and assure the implementation of the Plan it is important to continue the policy of attracting foreign capital and insuring foreign loans. Continued use should also be made of foreign economic aid and technical assistance. The prerequisites for a sufficient flow of foreign investments and aid are internal financial stability, the right to transfer abroad investment income, legal security and regular repayment of loans.

Customs policy should also in the main become an integral part of economic development policy, taking into account its influence on domestic production, the volume and character of imports and exports, the character and extent of the home market, etc.

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Chapter 20

PUBLIC ADMINISTRATION

The administrative apparatus should play an important role in the realisation of the Plan. This applies particularly to the economic departments and services which would have to bear most most of the burden in carrying out the Plan. The recent development of Government administration shouls enable it to play the part assigned to it by the Plan. There is still room for improvement and expansion of the administrative services, as well as for some changes in the methods of work.

The realisation of the Plan would require the extension of certain services and in some cases the creation of new ones. However, it was not possible during the formulation of the Plan to determine precisely all the necessary changes and extensions of the public services and administration. Some organisational questions were nevertheless considered and suggestions made in the chapters dealing with the programmes of particular branches of the economy. For example, considering its decisive role in the development of agriculture, particular attention was paid to the organisation of the Extension Service.

A summary of the main problems and future tasks connected with the organisation of the administrative body and the public services is given below. Planned budgetary expenditure for the five-year period include funds for the extension and improvement of the administration. The total budgetary expenditure on administration (salaries and other ordinary expenditure) should be increased from Eth.$ 99 million in 1956 to Eth.$ 140 million in 1961, i.e. about 8% annually. One of the main difficulties in the extension and promotion of the administration and public services will be the shortage of skilled personnel. Since the intake of Ethiopian personnel with secondary and higher education is not expected to be sufficient, the continued employment of a number of foreign experts is foreseen. It is, however, particularly important to note that according to available estimates a good number of the experts needed in the next five years could be supplied by the country's educational institutions.

The most comprehensive organisational tasks are to be faced in the agricultural sector. Preparations should begin as soon as possible for the creation of various services and institutions within the framework of the Extension Service as has been explained in greater detail in Chapter 10.

The proposed programme for mining explorations would require a reorganisation of the Mining Department. The planned and systematic carrying out of explorations would require an adequate organisation. However, when setting up the organisation of the Mining Department, its administrative tasks (primarily mining concessions and inspection) and operative control of state mines should also be taken into account.

In the industrial sector the setting up of the projected series of industrial enterprises and the preparations for constructing new industrial enterprises in the years subsequent to the planned period require an adequate organisation for study and research within the Ministry of Commerce and Industry. The accelerated process of industrialisation puts on the agenda many economic and technical questions requiring systematic study and research. The development of handicraft, small-scale and cottage industry is another problem requiring an adequate organisation within the Ministry of Commerce and Industry. The role of these branches in the national economy and the possibilities for their development have already been pointed out. In order to develop further private initiative in the industrial sphere it would be advisable to create a Chamber of Industry. The existence of such a Chamber would make possible a closer and more efficient contact between industrial enterpreneurs and the Government. The growing importance of foreign trade would require the establishment of an organisational unit within the framework of the Ministry of Commerce and Industry.

The Ministry of Public Works would also require the creation of some new services, for example, a water resources agency coordinating the activities of all organs concerned with water-exploitation, a geodetical service, and a separate technical service which should assist local authorities in the elaboration and implementation of community development programmes.

The plan and its implementation will require the setting up of a separate planning body which should be authorised to work out both long-term and annual plans, to elaborate adequate economic studies and analyses, and to supervise the execution of the Plan. Similarly further developments of planning and of the planned economy will necessitate the adequate organisation of a statistical service which is indispensable for supervising the implementation of the Plan, elaborating annual plans and preparing long-term plans for subsequent periods.

The question of organising government administration according to the requirements of the Plan is not exhausted by the above survey. It will be necessary to study organisational problems during the planned period on the basis of concrete requirements occurring during particular phases of development.

Adjusting the administration to the requirements of the Plan does not consist only of an expansion and adaptation of administration in view of the active role of the administration in economic development. Certain changes are also necessary in the methods of work. A more systematic and planned approach should be made possible in the first place by the very existence of a long-term plan. In addition to regular administrative matters the realisation of the Plan and of the programmes included in it for particular fields of economic and social activity would be the main objective of the various departments and services concerned. The realisation of a comprehensive economic plan would furthermore require closer cooperation between the various departments and services. An inter-dependent and balanced growth of the national economy should be reflected in the harmonious and coordinated functioning of the public administration. In addition to horizontal coordination, i.e. between separate central departments and services, it is also important to strengthen the vertical links between central and local authorities and services. It would be very important for the further development and increased efficiency of the state administration to regulate the status and working conditions of government employees.

By grading personnel by means of service examinations, regulating salaries, rights and duties, etc., the state administration would be greatly stabilised and improved, and employees would be encouraged to acquire more skill and become more efficient. Regulation of these matters has particular importance when the considerable expected inflow of domestic personnel into the administration and public services in forthcoming years is taken into account. In connection with the methods of work of the administration the necessity for closer and more effective contact with business circles and bodies, as well as current economic activity and problems should also be pointed out. This could be carried out by consultations and conferences with the representatives of business circles, enterprises and organisations, as well as by periodical industries into current questions.

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APPENDIX

MEMBERS OF THE COMMITTEE AND WORKING GROUP WHO PARTICIPATED IN THE WORKING OUT OF THE FIVE-YEAR PLAN

The elaboration of the Five Year Plan was supervised by a special committee nominated by H.I.M.the Emperor Haile Selassie I, composed as follows:

President: H.E.Ato Abebe Retta,Minister of Commerce and Industry; Members: H.E.Balambaras Mahteme Selassie Wolde Mascal, Minister of Agriculture; H.E. Ato Getahun Tessema,Vice-Minister of Commerce and Industry; H.E.Ato Menassie Lemma, Vice-Minister of Finance; H.E.Dejazmatch Zewde Gebre Selassie, Vice-Minister of Public Works and Communications and Lij Mikael Imru, Assistant-Minister of Defence.

A working group was also constituted composed of Yugoslav experts and Ethiopian experts from the various ministries of the Federal Government: Mr.Borivoie Yelich,Deputy-Director of the Imperial Planning Office and professor at the Faculty of Economics,University of Belgrade; Mr.Milan Messarich, State Councillor at the Federal Planning Office,Belgrade; Eng.Branislav Milosavlievich,professor,Faculty of Agriculture,University of Belgrade; Eng.Dr.Dushan Lalevich,professor, Faculty of Agriculture,University of Belgrade; Eng. Matey Kleindienst,Councillor at the Institute of Hydro-Energetics,Liubliana; Eng.Danilo Yelentz,Director of the Geological Institute,Liubliana,Mr. Jozhe Cencich, mining technician,Liubliana; Eng.Pavle Velimirovich, State Councillor at the Federal Planning Office, Belgrade; Eng. Velimir Milutinovich,professor,Faculty of Engineering,University of Belgrade; Eng.Milenko Yakovlievich,professor, Faculty of Engineering,Belgrade;Mr.Franio Raknich, member of the Institute of Economics,Belgrade, and by following Ethiopian experts: Ato Maaza Workneh, Director General at the Ministry of Commerce and Industry;Ato Araya Ogbagzy,Director General at the Ministry of Commerce and Industry; Ato Negato Wolde Guiorguis, Director General at the Ministry of Agriculture; Ato Mooria Wolde Selassie,Director at the Ministry of Agriculture; Ato Habtu Eshete, Director at the Ministry of Agriculture; Eng. Bekele Mammo, Vice-Director at the Mining Board; Ato Assefa Demissie Vice-Director at the Ministry of Finance; Ato Belai Abbai from the Ministry of Finance; Ato Abate Menkir, from the Ministry of Public Works and Communications, Captain Assefa Erregnew from the Imperial Body Guard.

All working papers and the Five-Year Plan were translated into English by Mr.Miladin Stoisavlievich,and Mr.Ratimir Stefanovich. Dr.Richard Pankhurst, lecturer at the University College, Addis Ababa,contributed by reviewing the final English text.

Typing work was performed by Mrs. Miriana Rayer and Mrs. Yovanka Nikolich.

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1. ESTIMATED INCREASE OF POPULATION[1)]

Millions

	Population			Annual Rate of Increase
	Active[2)]	Inactive[2)]	Total	
1950	10.1	7.7	17.8	1.5
1954	10.8	8.1	18.9	1.5
1956	11.1	8.4	19.5	1.5
1957	11.3	8.5	19.8	1.5
1961	12.0	9.0	21.0	1.6
1966	12.9	9.7	22.6	1.6

1) In estimating total population of Ethiopia various available sources were used. A partially carried out enumeration by the Ministry of Interior was also used.

2) For dividing population into active and inactive part the following method was used: As an active age of population was taken that from 15 to 60 years, and it accounted for 57% out of total population. For the population up to 15 years a percentage of 35% was presumed, while for over 60 years 8%. This structure was elaborated on the basis of census carried out in Addis Ababa, and by employing a method of analogy, comparing Ethiopia with other countries with similar conditions for which data were known.

2. ESTIMATED DISTRIBUTION OF ACTIVE POPULATION

Millions

	Agriculture & Forestry	Non-Agricultural Activities	Active Population Total
1950	9.2	8.9	10.1
1954	9.7	1.1	10.8
1956	10.0	1.1	11.1
1957	10.1	1.2	11.3
1961	10.7	1.3	12.0
1966	11.4	1.5	12.9

3. INVESTMENTS BY SOURCES OF FINANCING IN 1957/61

Million Eth.$

	Domestic Sources				
	Budget	Bank Loans	Private Investm.	Public Enterpris.	Total
Agriculture	20.5	10.0	5.5	-	36.0
Forestry	2.3	-	-	-	2.3
Mining	5.6	3.0	-	-	8.6
Electricity	-	6.0	0.3	5.0	11.3
Manufacturing Industry	6.0	16.0	8.0	0.5	30.5
Building	-	-	2.5	-	2.5
Transport and Communicat.	85.0	2.0	13.0	4.0	104.0
Trade	-	-	4.0	-	4.0
Tourism	1.0	1.0	3.0	-	5.0
Housing	-	6.0	24.0	-	30.0
Public Health	10.0	-	-	-	10.0
Education	19.0	-	-	-	19.0
Administrat. and Others	10.0	-	-	-	10.0
Community Development	20.0	-	-	-	20.0
Public Services	2.5	-	-	-	2.5
TOTAL	181.9	44.0	60.3	9.5	295.7

(Continued)

	Foreign Sources				Investm. Grand Total
	For. Loans & Grants in Aid	Direct Private Investm.	Repara-tions	Total	
Agriculture	4.3	-	-	4.3	40.3
Forestry	0.5	-	-	0.5	2.8
Mining	2.6	26.4	-	29.0	37.6
Electricity	-	-	32.0	32.0	43.3
Manufacturing Industry	0.1	19.5	7.0	26.6	57.1
Building	-	-	-	-	2.5
Transport and Communicat.	125.0	9.0	2.0	136.0	240.0
Trade	-	-	-	-	4.0
Tourism	-	-	-	-	5.0
Housing	-	-	-	-	30.0
Public Health	2.0	-	-	2.0	12.0
Education	1.0	-	-	1.0	20.0
Administrat. and Others	-	-	-	-	10.0
Community Development	5.0	-	-	5.0	25.0
Public Services	2.5	-	-	2.5	5.0
TOTAL	143.0	54.9	41.0	238.9	534.6

4. TENTATIVE LIST OF THE PLAN "B" PROJECTS[1)]

Preliminary Estimated Investment Costs

	Million Eth.$
Agriculture and Forestry	67
10 Centers for the Promotion of Agriculture	3
60 Agricultural Stations	2
250 Stud Stations	2.5
Agricultural, Forestry and Veterinary Schools	6
Forestry Institutions and Service (nurseries,national parks and regional offices)	3.5
Reforestation of Eroded Land	5
Promotion of Agriculture and Construction of Irrigation System in the Wabi Shebelli Valley	25
Including: Construction of a dam for water accumulation; Construction of 3 dams for slowing down water for irrigation purposes; Deviating river into the old water-channel; Building of irrigation dikes and ditches; Construction of cereal store-houses for supplying nomads; Setting up cotton plantations; Setting up farms and selecting stations; Organization of agricultural,veterinary and hydro-technical services and of required institutions; Construction of water-supply installations for the population.	
Promotion of Agriculture and Construction of Irrigation System in the Awash River Basin	20
Including: Building of irrigation system; Setting up cotton and oil-seed plantations; Organisation of live-stock farms; Organisation of live-stock farms; Organisation of agricultural, veterinary and hydro-technical services and other required institutions.	
Mining	4.8
Yubdo Explorations	0.5
Kibre Mangist (Adola) Explorations	1.8
Coal Explorations	0.5
Iron Ore Explorations	1.0
Other Explorations	1.0

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1) The tentative list of the Plan "B" projects refers to the Chapter 5, Section "Suplementary Programme (Plan "B"). The number of presented projects overrides the possibility of their realisation in the course of next five years, due both to the required considerable additional financial means and other limiting factors. In presenting such an extensive tentative list of supplementary projects, the intention was to offer a comprehensive survey of development possibilities and requirements based on available and known resources. It was assumed that given projects would be selected and their priority determined later when the question of additional financial means became ripe for consideration. Investment costs estimates are approximate and preliminary. Investment costs will be more precisely assessed later in economic and technological studies required for each proposed project.

4. TENTATIVE LIST OF ~~THE~~ PLAN "B" PROJECTS (Continued)

Preliminary Estimated Investment Costs

	Million Eth.$
Electricity	8
Koka Studies and Projects for the Second Hydro Plant[2]	3
Abba Samuel II Studies and Projects for the Second Plant[2]	0.5
Dorfu (Eritrea) Studies and Projects for a New Hydro Plant[2]	2
Local Electrification - 30 Small Thermal Plants	2
Wabi Shebelli Studies, Explorations and Initial Hydro-Energetic Works	0.5
Industry	20
New Cement Factory (area of Addis Ababa)[3]	2
Wood Pulp Plant[3]	4
Paper Factory[3]	3
Technological Research of Possible Iron Ore Processing and Projecting Steel Plant (Hamasien)	6
Technological Research for the Potassium Salts and Sulphur Production (Dallol)	3
Other Technological Examinations of Domestic Raw Materials and New Technological Processes	2
Transport	104
New Roads[4]	80
PTT - Enlargement of the Five-Year Investment Programme	3
Sea Transport - Purchases of Sea Ships and Development of Harbours	11
Railway Studies and Projecting	10
Trade- Stores Construction	5
Community Development - Enlargement of the Five-Year Plan	8
Health - Enlargement of the Five-Year Plan	6
Education - Enlargement of the Five-Year Plan	10
TOTAL	232.8

[2] Total construction costs for the second hydro-plant Koka are preliminarily estimated at about Eth.$ 15 millions; for the second Abba Samuel plant at 2.5 millions, and for a new Dorfu hydro-plant 7 million.

[3] Total costs for a new cement plant are preliminarily estimated at about Eth.$ 4 million; for wood-pulp plant 13 million, and for paper factory 6 million.

[4] The additional amount of Eth.$ 80 million is required to fulfill Highway's programme embodied in the Five-Year Plan, and for the construction of a new road Ghimir-Imi - Mustahil.

5. ESTIMATED STRUCTURE OF PERSONAL URBAN EXPENDITURE[1)]

	1950	1954	1957	1961
Million Eth.$				
Direct Taxes	3	4	4	16
Saving	8	15	18	25
Total Consumption	297	335	359	414
Food-Stuffs	182	191	200	226
Clothes and Footwear	30	38	41	51
Durable Goods	10	20	25	30
Beverages and Tobacco	18	20	22	25
Other Goods	14	17	19	23
House-Rent and Various Services	43	49	52	59
TOTAL	308	354	381	455
Percentage				
Direct Taxes	1.0	1.1	1.0	3.5
Saving	2.6	4.2	4.7	5.5
Total Consumption	96.4	94.7	94.3	91.0
Food-Stuffs	59.1	54.0	52.5	49.7
Clothes and Footwear	9.7	10.7	10.8	11.2
Durable Goods	3.2	5.7	6.6	6.6
Beverages and Tobacco	5.8	5.7	5.8	5.5
Other Goods	4.6	4.8	5.0	5.1
House-Rent and Various Services	14.0	13.9	13.6	12.9
TOTAL	100.0	100.0	100.0	100.0

1) Figures for 1954 are based partly on available statistical data (direct taxes, import of durable goods) and partly on estimates, taking into account "Family Budget Survey" for Addis Ababa carried out by the Ministry of Commerce and Industry in 1952 and published in 1956 in the "Economic Progress of Ethiopia."

6. ESTIMATION OF COMMODITY FUNDS BY ORIGIN AND BY KIND OF CONSUMPTION[1)]

Million Eth.$

	Agriculture			Manufacturing Industry & Handicrafts		
	1954	1957	1961	1954	1957	1961
Goods in Process . . .	17	20	40	8	9	19
Investments	-	-	-	3	4	13
Private Consumption .	154	186	216	109	138	249
Government Consumption	5	5	6	5	5	13
Export	167	158	208	8	9	12
TOTAL	343	369	470	133	165	306

(Continued)

	Import			Grand Total		
	1954	1957	1961	1954	1957	1961
Goods in Process	38	39	40	63	68	99
Investments	36	52	84	39	56	97
Private Consumption . .	185	186	155	448	510	620
Government Consumption.	20	23	28	30	33	47
Export	-	-	-	175	167	220
TOTAL	279	300	307	755	834	1 083

1) This table is partly based on statistical data and partly on estimates. As far as the sources of commodity funds are concerned, the data for manufacturing industry and import for 1954 are based on statistics. In the case of agriculture marketable surpluses have been estimated. Handicraft commodity production has been estimated, too. Regarding particular sectors of commodity funds consumption, more reliable and fuller statistical data were available only for export. For other sectors of consumption (further processing of goods, investments and government consumption) there were used partly statistical data and partly various quantitative analyses and estimates which have been worked out together with the Plan. The value of commodity funds is given in retail prices (prices paid by final buyers), i.e. production prices have been increased for trade costs and income, transportation costs, import and export duties and indirect taxes. As agricultural commodity funds there is shown only that part of agricultural production which is sold on the market (i.e. marketable surpluses).

7. SURVEY OF IMPORTS[1)]

Million Eth.$

	1951	1955	1951-55	1957	1961	1957-61
Foodstuffs	13.6	11.3	70.1	9.7	5.6	34
Textile	42.6	53.8	255.8	54.0	44.8	252.4
Of which						
Raw Cotton	1.6	6.5	22.1	6.5	7.0	34.0
Cotton Yarn	10.3	6.0	43.3	6.0	5.0	29.0
Cotton Manufactures	25.8	29.0	140.3	27.0	20.0	113.0
Chemicals	2.8	6.7	24.8	6.8	8.3	38.2
Fuels and Lubricants . .	6.8	16.1	58.4	17.4	24.0	98.0
Tires (excl.bicycles) .	2.8	3.8	20.0	4.5	6.5	30.0
Rubber Manufactures . .	0.1	1.1	2.3	1.2	1.6	7.1
Paper and Printed Matters	1.7	3.6	13.9	3.5	4.2	19.5
Home and Office Appliances and Instruments .	1.0	4.9	11.8	5.0	7.0	28.5
Metal Manufactures . . .	2.0	7.1	20.4	7.0	7.5	37.0
Semifinished Metals . .	0.2	1.0	3.1	1.4	4.0	13.7
Transportation Means and Equipment (excluding passenger cars) . . .	7.4	17.7	48.6	28.2	36.7	161.5
Passenger Cars	2.8	6.8	27.3	7.0	7.0	35.0
Capital Goods (mining, electricity,manufacturing industry and handicrafts)	4.3	13.4	40.8	11.1	23.0	100.8
Agricultural Machinery .	-	1.0	1.7	0.4	3.5	10.2
Building Materials . . .	2.3	5.1	20.1	6.0	11.0	46.0
Others	4.9	9.2	43.6	7.7	12.6	48.4
TOTAL	95.3	162.6	662.7	170.5	207.3	960.3

1) Data for 1951 and 1955 are taken from the Annual Import Trade Statistics (Annual Bulletins) and from the Report on the External Trade of Ethiopia published by the Ministry of Commerce and Industry.

8. STRUCTURE OF TOTAL SURFACES1)

Thousand Hectares

	1950	1954	1957	1961
Agricultural Land	55 000	55 000	55 000	55 010
Cultivated Land	7 000	7 500	7 820	8 530
Crop Land	5 428	5 760	6 027	6 615
Fallow Land	1 077	1 237	1 286	1 370
Orchards (including coffee)	493	501	505	542.5
Vineyards	2	2	2	2.5
Meadows and Pastures	48 000	47 500	47 180	46 480
Forest Land	30 400	30 390	30 385	30 370
Bare Land	33 032	33 042	33 047	33 052
TOTAL COUNTRY'S AREA	118 432	118 432	118 432	118 432

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1) This table is based on official data published in "Quarterly Bulletin", Ministry of Commerce and Industry, as well as on Export-Import Statistics of Custom Administration and data published in F.A.O. Yearbook of Statistics - Production 1953. Some data are supplemented or corrected, particularly those concerning cultivable surface, which are conformed to the official statistics on the structure of various crops and harvest yields.

9. SOWN AREA, PRODUCTION AND AVERAGE YIELD OF SOME CROPS1)

		1954	1957	1961
Cropland				
Cereals	s	4 880	5 106	5 587
	p	4 321	4 523	5 008
Teff	s	3 183	3 330	3 539
	p	2 546	2 664	2 831
	y	8	8	8
Wheat	s	213	223	327
	p	191	201	310
	y	9	9	9.5

s = Sown Area in thousand hectares
p = Production in thousand m. tons
y = Yield per hectare in quintals

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1) Data regarding sown area, production and yield are based on official statistics subjected to certain corrections (e.g. twice sown areas and those with complementary crops).

9. SOWN AREA, PRODUCTION AND AVERAGE YIELD OF SOME CROPS

(Continued)

		1954	1957	1961
Barley	s	1 060	1 109	1 178
	p	1 060	1 109	1 178
	y	10	10	10
Maize	s	159	167	245
	p	206	217	331
	y	13	13	13.5
Sorghum	s	265	277	298
	p	318	332	358
	y	12	12	12
Industrial Crops	s	491	514	573
Cotton Fibres	s	16	17	32
	p	2	2.2	5.8
	y	1.3	1.3	1.65
Musa	s	64	66	70
	p	7.0	7.3	7.7
	y	1.1	1.1	1.1
Sisal	s	1.5	2.0	4.0
	p	0.3	0.4	0.8
	y	2	2	2
Sugar Cane	s	2.5	2.5	4.5
	p	62.5	62.5	112.5
	y	250	250	250
Sunflower	s	53	55	58
	p	31.8	33.0	34.8
	y	6	6	6
Tobacco	s	2.5	2.5	3.0
	p	2.0	2.0	2.4
	y	8	8	8
Noug	s	266	278	296
	p	186.2	194.6	205.2
	y	7	7	7
Other Oil Seeds	s	85.5	91.0	105.5
	p	54.9	58.4	69.0
Pulses	s	286	299	326
	p	245.1	255.7	277.3
Harricot Beans	s	32	33	35
	p	32	33	35
	y	10	10	10

9, SOWN AREA,PRODUCTION AND AVERAGE YIELD OF SOME CROPS

(Continued)

		1954	1957	1961
Chick Peas	s	53	55	59
	p	42.4	44.0	47.2
	y	8	8	8
Field Peas	s	95	100	106
	p	85.5	90.0	95.4
	y	9	9	9
Lentils	s	84	89	103
	p	58.8	62.3	72.1
	y	7	7	7
Horse Beans	s	22	22	23
	p	26.4	26.4	27.6
	y	12	12	12
Vegetables	s	103	108	119
Potatoes	s	6	7	10
	p	30	35	50
	y	50	50	50
Yams	s	21	22	24
	p	63.0	66.0	76.8
	y	30	30	32
Pepper	s	63	66	70
	p	25.2	26.4	28.0
	y	4	4	4
Other	s	13	13	15
	p	26	26	30
	y	20	20	20
Orchards				
Fruits	s	3.0	3.5	4.5
	p	36	42	54
	y	120	120	120
Coffee	s	442	445	475
	p	141.4	142.0	156.8
	y	3.2	3.2	3.3
Miscellaneous				
Chat	s	3.0	3.5	7.0
	p	3.0	3.5	7.0
	y	10	10	10
Ghesho	s	53	53	56
	p	34.5	34.5	36.4
	y	6.5	6.5	6.5

9. SOWN AREA, PRODUCTION AND AVERAGE YIELD OF SOME CROPS
(Continued)

		1954	1957	1961
Second Sowing				
Cereals				
Degussa	s	5.3	5.5	5.8
	p	2.7	2.8	2.9
	y	5	5	5
Industrial Crops				
Linseed	s	21	22	23
	p	10.5	11.0	11.5
	y	5	5	5
Pulses				
Horse Beans	s	84	89	96
	p	84	89	96
	y	10	10	10
Chick Peas	s	213	224	241
	p	127.8	134.4	144.6
	y	6	6	6
Lentils	s	74	78	83
	p	31.0	39.0	41.5
	y	5	5	5
Undercrops				
Colza	s	42	45	48
	p	12.6	13.5	14.4
	y	3	3	3
Sesame	s	53	55	60
	p	21.2	22.0	24.0
	y	4	4	4
Ground Nuts	s	21	22	28
	p	8.4	8.8	11.2
	y	4	4	4
Sunflower	s	106	110	116
	p	31.8	33.0	34.8
	y	3	3	3
Harricot Beans	s	55	58	63
	p	27.5	29.0	31.5
	y	5	5	5
Maize	s	53	56	60
	p	39.7	42.0	45.0
	y	7.5	7.5	7.5

10. LIVESTOCK POPULATION1)

Million Heads

	1950	1954	1957	1961
Cattle	20.2	21.8	23.1	24.9
Calves under 1 year	2.9	3.2	3.4	3.6
Heifers 1-3 years	2.5	2.7	2.9	3.1
Males 1-3 years	2.5	2.7	2.8	3.1
Cows	7.1	7.6	8.1	8.7
Bulls and Oxen	5.2	5.6	5.9	6.4
Sheep	19.0	20.5	21.8	23.5
Goats	14.2	15.3	16.2	17.5
Pigs	0.01	0.01	0.01	0.01
Horses	1.0	1.1	1.2	1.3
Donkeys	3.0	3.3	3.4	3.7
Mules	1.0	1.1	1.2	1.3
Camels	0.75	0.81	0.86	0.93
Poultry	30.0	32.5	34.4	36.4

1) The above figures are based on estimates for 1953 made by the Ministry of Agriculture. Some corrections have been operated on the basis of assessment on the spot, while some are due to the necessity for coordinating correlation between particular categories within the species on the basis of the productivity and reproduction of a herd (fecundity, death-rate, slaughtering).

11. LIVESTOCK PRODUCTION1)

	Unit	1950	1954	1957	1961
Meat	thousand tons	510	533	582	657
of which Slaughtered . . .	thousand tons	460	497	526	601
Hides	thousand pcs.	2 728	2 944	3 116	3 342
Skin of Sheep	thousand pcs.	7 854	8 737	9 263	9 777
Skin of Goats	thousand pcs.	6 320	6 853	7 272	7 711
Wool	tons.	264	286	303	328
Milk	thousand tons.	581	627	664	715
Eggs	million pcs.	1 080	1 169	1 240	1 311

1) This table is worked out on the basis of a number of particular kinds of livestock and on their reproduction and productivity which data are partly estimated and partly gathered on the spot.

12. ESTIMATION OF GROSS AND NET PRODUCT IN AGRICULTURE

Million Eth.$

	1950	1954	1957	1961
Gross Product	1 211	1 294	1 359	1 511
Crops and Vegetable Production . . .	671	715	749	844
Livestock Production	262	284	300	332
Others	278	295	310	335
Net Product	1 195	1 277	1 341	1 492

1) This estimation is based on the data concerning annual value of crop production. livestock production, processing of agricultural products and value of household activities and accessory branches of production (game, fisheries, collection of aromatic and medical plants, etc.).

13. INVESTMENTS IN AGRICULTURE FROM THE BUDGET IN 1957-61

	Million Eth.$
Settlers Farms	7.6
Technical Management of the Cooperative Farms	1.1
Technicians Trained Abroad	0.3
Agricultural Improvement Centres	3.3
Agricultural Technical School, Jimma	0.2
Agricultural School, Ambo	0.2
Veterinary School	0.5
Stud-farms	0.2
Breeding Stations for Cattle	0.5
Breeding Stations for Sheep	0.1
Agricultural Stations	0.7
Stud Stations	0.9
Coffee	0.6
Centres for Cotton	0.2
Veterinary Service	2.0
Locust Control	0.4
Agents for Extension Service	0.1
Subsidies for Constructing Wells, Nurseries, Flour Mills, Workshops, and for Protection Against Erosion	1.6
TOTAL	20.5

14. ESTIMATION OF FOREST LAND[1)]

Thousand hectares

	1950	1954	1957	1961
Tall Dense Forests	7 400	7 400	7 400	7 400
Sparse Forests	23 000	22 990	22 985	22 970
TOTAL	30 400	30 390	30 385	30 370
Protective Forests in Coffee Regions . .	390	398	401	410

1) This table is based on estimates made on the spot and on the existing data (International Institute of Agriculture: International Year book of Forestry Statistics, Volume III Africa, Rome 1942; F.A.O. Report No 231: Report to the Government of Ethiopia on Forest Policy and Forest Development by E.H.F. Swain, etc.).

15. ESTIMATED CONSUMPTION OF FOREST PRODUCTS[1)]

Million c.m.

	1954	1957	1961
Firewood	5.7	5.9	6.3
Wood for Manufacturing and Timber for Construction	1.4	1.5	1.7
TOTAL	7.1	7.4	8.0

1) Based on existing data and estimates of future requirements in accordance with the planned development.

16. INVESTMENTS IN FORESTRY IN 1957-61

	Thousand Eth.$
Afforestation	1 800
Inventorying of Forests	705
Forestry School	259
Nurseries	8
Research	25
Equipment of Regional Offices	80
TOTAL	2 877

17. MINING PRODUCTION

	1955	1957	1961	1962
	in kg.			
Gold Mines	677.2	732	932	1 115
Kibre Mangist	585	500	700	883
Akobo	32	32	32	32
Ugaro	60.2	100	100	100
Other Gold Mines 2) . .		100	100	100
Platinum - Yubdo 1)	7.8	10.2	140	180
Salt Mines 3)	13 000	13 000	13 000	13 000
	Thousand Eth. $			
Gold Mines	1 690	1 827	2 333	2 666
Kibre Mangist	1 460	1 247	1 753	2 086
Akobo	80	80	80	80
Ugaro	150	250	250	250
Other Gold Mines 2) . . .		250	250	250
Platinum - Yubdo 1)	40	52	805	920
Salt Mines 3)	52	52	52	52
TOTAL	1 782	1 931	3 190	3 638

1) The quantities of gold and platinum are rounded to kilograms, and the value to thousands of Eth.$.

2) The production of the following mines is included: Modrizien,Dorfu, Adi Nefas,Cincinaro Ducambia and Mai Teb.

3) The production of mines Karum Bad, Barahle and Wollo is included.

18. INVESTMENTS IN MINING IN 1957-61

	Sources of Financing				Total Investments
	Budget	Bank Credits	Foreign Loans	For.Priv. Capital	
Yubdo and Kibre Mangist . .	-	3.3	2.6	-	5.9
Explorations of New Areas .	1.7	-	-	1.0	2.7
Oil Explorations in Ogaden	-	-	-	12.5	12.5
Oil Explorations in Eritrea	-	-	-	12.1	12.1
Reserved for Exploration .	1.9	1.7	-	0.8	4.4
TOTAL	3.6	5.0	2.6	26.4	37.6

19. PRODUCTION AND CONSUMPTION OF ELECTRIC POWER[1)]

Million kWh

	Production	Consumption
1951	35.3	29.1
1952	37.8	31.1
1953	43.1	35.3
1954	45.0	37.0
1955	47.2	38.7
1957	62.6	51.4
1961	110.0	90.0
1966	184.7	151.0
1976[1)]	432.1	352.3

1) The main criterion in estimating long-term increase of power production was the pattern and trend of industrialisation foreseen in the first 5-year period. Eventual big consumers of power like electro-chemical and electro-metalurgical plants have not been taken into account.

20. INVESTMENTS IN ELECTRICITY IN 1957-61

	Thousand Eth.$
Expansion of Thermo-Electric Plant im Addis Ababa	300
Setting up and Extension of Addis Ababa Distribution Network	1 450
Hydro-Power Plant Jimma	80
Hydro-Power Plant and Substation Koka	21 895
Transmission Line Addis Ababa and Substations	2 786
Transmission Line Koka-Nazareth	115
Transmission Line Koka-Diredawa and Substation Diredawa	7 349
Alemaya Plant, Transmission Line Diredawa-Harar and Substation Harar	1 900
Expansion of Hydro Plant Abba Samuel Phase 1	450
Hydro Electric Plant Dorfu III	900
Electric Plants and Network for New Electrif, Total 1 180 kW	1 861
Adaptations and Renovation of Local Electr. Plants and Networks	580
Preliminary Works, Explorations, Studies and Projects	3 634
TOTAL	43 300

21. SETTLEMENTS AND ADMINISTRATIVE CENTRES TO BE ELECTRIFIED

	Estim. Population in thousands	Investments in thousand Eth.$
Adigrat 1)	3.1	56
Asella	6.7	90
Debra Markos	13.7	75
Fiche	2.5	60
Kabri Dahar	2.0	60
Ghidolle	5.9	45
Goba	8.7	90
Gore	9.5	75
Hollota	1.0	60
Yrgalem	4.5	30
Jiggiga	3.5	60
Mattu	3.5	60
Mojo	2.0	32
Neghelli	2.3	60
Soddu	5.9	75
Guder	1.3	30
Butajira	5.1	95
Debra Sina	1.2	38
Awash	1.5	10
Combolcha	3.9	65
Asbe Teferi	4.7	65
Dilla	9.7	100
Kibre Mangist	2.8	40
Mega	11.6	100
Chencha	4.0	65
Agaro	6.7	90
Dembidollo	4.9	65
Fenote Selam	2.0	50
Bahr Dar	2.5	50
Makale 2)	8.3	100
TOTAL	144.9	1 891

1) Replacement of existing installations.

2) Extension of existing installations.

22. OUTPUT OF SOME INDUSTRIAL PRODUCTS

	Unit	1954	1957	1961	1962 2)
Cotton Yarn	tons	1 720	2 794	6 500	9 000
Cotton Cloths	million sq.m.	3.5	5.9	21.5	33.5
Blankets	tons	-	3	500	530
Sacs	million pcs.	1.0	1.5	3.0	3.4
Leather and Soles	tons	860	930	2 150	3 400
Leather Footwear	thousand pairs	80	90	300	350
Soap	tons	2 750	2 900	5 500	5 800
Oil Paints	tons	-	-	500	550
Matches	million boxes	9.2	12.0	13.0	14.0
Paper	tons	257	300	400	450
Sawn Timber	thousand c.m.	11.0	11.5	12.0	13.0
Wooden Products	thousand Eth.$	300	1 500	3 100	3 000
Glass Bottles	million pcs.	5.9	7.5	11.5	12.2
Flat Glass	thousand sq.m.	-	-	800	850
Cement	thousand tons	13	27	30	45
Bricks	million pcs.	6.5	8.5	12.5	14.0
Sugar	thousand tons	15.8	18.0	30.0	44.0
Meat	thousand tons	2	6	24	45
Beer	thousand hl.	29	30	38	40
Flour	thousand tons	13	20	30	35
Milk	thousand tons	2.0	2.2	10.0	13.0

1) Data for 1962 are given on the basis of investments estimated for the period 1957-61. As the large number of industry projects will be completed by 1961, the effect of increased production might be reflected only from 1962 on.

23. GROSS OUTPUT OF MANUFACTURING INDUSTRY

Million Eth.$

	1954	1957	1961	1962 1)
Textiles	12.3	13.0	34.6	47.0
Leather and Footwear	1.8	3.3	13.7	22.1
Chemicals	2.4	2.8	9.6	10.0
Timber and Building Material .	3.7	5.5	9.9	10.2
Tobbaco and Cigarettes	1.1	1.5	2.0	2.4
Food Processing and Beverages.	35.9	51.3	73.4	93.4
Metals	0.5	0.9	22.9	23.1
Printing	1.0	1.5	5.5	5.6
Other	3.0	2.0	3.9	4.2
TOTAL	61.7	81.8	175.5	218.0

1) The reason for including data on gross output in 1962 is that certain number of new projects will be completed in 1961 so that their gross output could not be covered by the data for 1961.

24. ESTIMATED INVESTMENTS BY PROJECTS IN MANUFACTURING INDUSTRY IN 1957-61

Thousand Eth.$

	Budget	Other Domestic Sources	Foreign Capital	Reparations	Total
Big Textile Plant	-	-	-	7 090	7 090
Other Textile Plants	-	5 439	5 439	-	10 878
Knitting Plant	-	327	-	-	327
Flax Cleaning Plant	-	100	-	-	100
Reconstruction of Exist. Plants	-	-	400	-	400

1) The value of investments is based on the preliminary investment programme elaborated for each new industrial project. The survey of financing industrial investment programme by various sources is given as a tentative estimation (with the exception of budgetary means and reparations in which cases the Plan has a more definite character). Budgetary means are foreseen for the enterprises having a public character (army metal workshop; printing press and book-binding) or for those where government assistance is deemed necessary (promotion of cottage industry, studies, projects and preliminary technological research). Domestic capital for investing into industrial enterprises mostly comes from credits granted by the Development Bank and from domestic private sources. Domestic private capital investments are foreseen for such enterprises where interest was shown by that capital in the past. Foreign capital refers to private investments and its participation is foreseen mainly in those undertakings for which foreign interest has already been manifested.

24. ESTIMATED INVESTMENTS BY PROJECTS IN MANUFACTURING INDUSTRY IN 1957-61
(Continued)

Thousand Eth.$

	Budget	Other Domestic Sources	Foreign Capital	Reparations	Total
Sacs Plant	-	-	1 123	-	1 123
Reconst.of the Exist.Sacs Plants	-	-	350	-	350
Leather Plant	-	-	1 098	-	1 098
Leather Plant	-	1 098	-	-	1 098
Footwear Plant	-	285	-	-	285
Soap Factory	-	182	-	-	182
Soap Factory	-	182	-	-	182
Dye-stuffs Factory	-	-	520	-	520
Veneer,Wood Peeling & Box Factory	-	650	-	-	650
Reconst.& Dislocation of Saw Mills	-	-	450	-	450
Furniture Factory	-	200	-	-	200
Cement Factory	-	1 448	-	-	1 448
Bricks and Ceramic Factory . . .	-	155	-	-	155
Glass Factory	-	-	800	-	800
Sugar Factory	-	7 000	7 000	-	14 000
Slaughterhouse	-	-	2 260	-	2 260
Slaughterhouse	-	2 260	-	-	2 260
Tobacco Factory	-	500	-	-	500
Fruit & Vegetable Canning Factory	-	200	-	-	200
Fruit & Vegetable Canning Factory	-	200	-	-	200
Fruit Juices Factory	-	30	-	-	30
Fruit Juices Factory	-	30	-	-	30
Flour Mills - 5 Units	-	250	-	-	250
Milk Processing Plants	-	220	100	-	320
Assembling Plants	300	-	-	-	300
Metal Workshop	-	350	-	-	350
Metal Works Factory (army) . . .	2 000	-	-	-	2 000
Printing and Book-binding	1 500	-	-	-	1 500
Other Small Enterprises	-	3 400	-	-	3 400
Cottage Industry	1 200	-	-	-	1 200
Studies,Drafting & Indust.Research	1 000	-	-	-	1 000
GRAND TOTAL	6 000	24 506	19 540	7 090	57 136

25. INVESTMENTS IN TRANSPORT IN 1957/61

Million Eth.$

	Domestic Sources				
	Budget	Bank Loans	Private Investment	Public Enterpr.	Total
Roads					
New Construction and Maintenance	60.0	-	-	-	60.0
Motor Vehicles	-	2.0	13.0	-	15.0
Railways	-	-	-	-	-
Aviation	-	-	-	-	-
Ports and Sea Shipping . . .					
Ports	12.0	-	-	-	12.0
Sea Shipping	2.5	-	-	-	2.5
City Traffic	6.0	-	-	4.0	10.0
PTT	4.0	-	-	-	4.0
TOTAL	84.5	2.0	13.0	4.0	103.5

(Continued)

	Foreign Sources				Investm. Grand Total
	Foreign Loans	Dir.Priv. Invest.	Reparat-ions	Total	
Roads					
New Construction and Maintenance	60.0	-	-	60.0	120.0
Motor Vehicles	-	-	-	-	15.0
Railways	-	9.0	-	9.0	9.0
Aviation	47.5	-	-	47.5	47.5
Ports and Sea Shipping					
Ports	12.0	-	-	12.0	24.0
Sea Shipping	-	-	2.0	2.0	4.5
City Traffic	-	-	-	-	10.0
PTT	6.0	-	-	6.0	10.0
TOTAL	125.5	9.0	2.0	136.5	240.0

26. ELEMENTARY GOVERNMENT SCHOOLS IN 1952/53 - 1955/56

Excluding Addis Ababa and Eritrea

	1952/53	1953/54	1954/55	1955/56
Primary Schools				
Enrolment	45 930	54 027	59 877	68 567
Grade 1	27 159	32 825	36 377	39 382
Grade 2	10 186	11 348	12 292	15 289
Grade 3	5 628	6 594	7 282	8 661
Grade 4	2 957	3 260	3 926	5 235
Class-room Units	1 366	1 458	1 548	1 630
Grade 1	554	605	636	643
Grade 2	381	393	406	435
Grade 3	269	289	314	333
Grade 4	162	171	192	219
Class Size	34	37	39	42
Grade 1	49	54	57	61
Grade 2	27	29	30	35
Grade 3	21	23	23	26
Grade 4	18	19	20	24
Middle Schools				
Enrolment	3 849	4 809	5 497	7 429
Grade 5	1 599	2 022	2 230	3 067
Grade 6	1 046	1 304	1 508	1 896
Grade 7	688	869	1 034	1 426
Grade 8	516	614	725	1 040
Class-room Units	265	311	354	431
Grade 5	101	120	134	153
Grade 6	69	86	99	120
Grade 7	52	59	69	92
Grade 8	43	46	52	66
Class Size	15	16	16	17
Grade 5	16	17	17	20
Grade 6	15	15	15	16
Grade 7	13	15	15	16
Grade 8	12	13	14	16
Elementary Schools Total				
Enrolment	49 779	58 836	65 374	75 996
Class-room Units	1 631	1 769	1 902	2 061
Clas Size	31	33	34	37

27. ALL GOVERNMENT SCHOOLS IN 1955/56

Excluding Eritrea

	Enrolled Students	Class-room Units	Class Size
Primary Schools	80 486	1 874	43
Grade 1	44 675	732	61
Grade 2	18 229	497	37
Grade 3	10 776	384	28
Grade 4	6 806	261	26
Middle Schools	11 155	535	21
Grade 5	4 184	185	23
Grade 6	2 845	139	21
Grade 7	2 230	117	19
Grade 8	1 896	94	20
Secondary Schools	3 210	120	27
Grade 9	1 444	49	29
Grade 10	933	33	28
Grade 11	511	20	26
Grade 12	322	18	18
Higher Learning Institutions . .	345	21	16
Grade 13	187	8	23
Grade 14	91	6	15
Grade 15	49	5	10
Grade 16	18	2	9
ALL SCHOOLS	95 196	2 550	37

28. ENROLMENT IN SECONDARY SCHOOLS IN 1955/56

	Grade				Total
	9	10	11	12	
Academic Secondary Schools					
Addis Ababa					
Empress Menen School	43	21	9	9	82
Gabre Mariam School	81	125	55	24	285
Haile Selassie I Second.School	148	67	27	19	261
Haile Selassie I Day School .	60	32	17	8	117
Medhane Alem School	60	-	-	-	60
Menelik II School	128	43	20	13	204
General Wingate School . . .	90	145	42	38	315
Tafari Makonen School	102	94	68	36	300
12 Provinces					
Medhane Alem School,Gondar . .	76	66	36	29	207
ETHIOPIA (excl.Eritrea)	788	593	274	176	1 831
Eritrea					
Haile Selassie I School,Asmara	88	66	-	-	154
Prince Makonen School,Asmara	109	-	-	-	109
ETHIOPIA TOTAL	985	659	274	176	2 094

28. ENROLMENT IN SECONDARY SCHOOLS IN 1955/56 (Continued)

	Grade				Total
	9	10	11	12	
Special Secondary School					
Addis Ababa					
Technical School	99	81	35	-	215
One Year Handicraft School	30	-	-	-	30
Commercial School	96	40	41	47	224
Haile Selassie I Teacher Train.School .	78	41	19	6	144
Haile Selassie I One Year Teacher training School	161	-	-	-	161
Theological School	29	16	-	-	45
Nurses Training E.Zauditu Hospital Mission School	5	8	7	-	20
Haile Selassie Hospital Nurses Training School	-	15	17	-	32
Princess Tsehai Hospital Nurses Training School	11	16	-	-	27
One-Year School Director Course	-	-	-	12	12
12 Provinces					
Agricultural Technical School, Jimma . .	19	45	48	19	131
Four Year Teacher Training School, Harar	102	78	70	62	312
Nurses Training Hospital Mission School, Lekempti	8	-	-	-	8
Community Nurses Training, Gondar . . .	18	-	-	-	18
ETHIOPIA (excl.Eritrea)	656	340	237	146	1 379
Eritrea					
Vocational Trade School, Asmara	82	46	-	-	128
Nurses Training School, Asmara	19	13	-	-	32
ETHIOPIA TOTAL	757	399	237	146	1 539

29. ENROLMENT IN INSTITUTIONS OF HIGHER LEARNING IN 1955/56

	Grade				Total
	13	14	15	16	
Addis Ababa					
Faculty of Arts (U.C.	48	24	25	18	115
Faculty of Science (U.C.)	20	10	13	-	43
Secondary Teacher Training (U.C.) . . .	23	-	-	-	23
Engineering College	25	20	-	-	45
Building Institute	21	-	-	-	21
12 Provinces					
Agricultural College, Jimma	16	16	11	-	43
Public Health Training College, Gondar	34	21	-	-	55
ETHIOPIA TOTAL	187	91	49	18	345